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GLEANINGS

IN BEE CULTURE

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THE A. I.
MEDINA



ROOT CO.
OHIO

U.S.A.

Western Edition

Entered at the Postoffice, Medina, Ohio, as Second-class Matter

Root's Bee-keepers' Supplies at Convenient Distributing Points.

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Maryland--Rawlings Implement Co., Baltimore, Md.
 Michigan--M. H. Hunt & Son, Bell Branch; George E. Hilton, Fremont, Mich.
 Minnesota--The A. I. Root Company, 1024 Mississippi St., St. Paul, Minn.
 Missouri--John Nebel & Son, High Hill, Mo. Springfield Seed Co., Springfield, Mo. Blanke & Hauk, St. Louis, Mo.
 New Mexico--Edward Scoggin, Carlsbad.
 New York--The A. I. Root Company, Syracuse, N. Y. The A. I. Root Company, 44 Vesey St., New York City, N. Y.
 Ohio--McAdams Seed Company, Columbus Grove, O. Griggs Bros., 521 Monroe St., Toledo, O. C. H. W. Weber, 2146 Central Ave., Cincinnati, O.
 Pennsylvania--Prothero & Arnold, Dubois, Pa. The A. I. Root Company, 10 Vine St., Philadelphia, Pa. E. E. Pressler, 633 Lycoming St., Williamsport, Pa.
 Texas--Texas Seed & Floral Co., Dallas; Udo Toepperwein, San Antonio, Tex.
 Virginia--W. E. Tribbett, Spottswood, Va.

The following buy our goods in carload lots but supplement them with local-made goods.

Alabama--J. M. Jenkins, Wetumpka, Ala.
 California--Calif. Nat'l Honey-producers' Ass'n, Los Angeles; Madary Planing Mill, Fresno, Cal.

Oregon--Portland Seed Co., Portland, Ore.
 Texas--D. M. Edwards, Uvalde, Tex.

The A. I. Root Company, : Medina, Ohio.

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REPLYING to a question, p. 1117, there is scarcely any doubt that the little worm that held the young bees prisoner was a wax-worm of some kind.

AN ADVANTAGE of the Alexander treatment of black brood, p. 1125, is that it is so easily tried. A great many will be likely to try it next year, and before the season is over we ought to know pretty well about it. A simple cure is all the better for being simple if it is only successful.

"IT ALWAYS PAYS to requeen at least once in two years," p. 1126. That may be true as a general statement, although some do not agree to it; but if true, there are surely notable exceptions. [The word *always* should have been replaced by the word *generally*. My other statements on the point will imply exceptions to the rule. Thanks for the correction.—Ed.]

"DON'T STORE honey in a refrigerator" is common advice. Now, does any one know from actually trying it that well-ripened honey will not keep well in a refrigerator? [Why, doctor! Don't we know that, beyond peradventure, certain conditions, such as dampness and cold as found in the average refrigerator, are detrimental? and that the converse is true—that dryness and heat are always favorable? And, further, I absolutely know of a case where honey stored in a refrigerator would candy twice as quick as that left outside of it.—Ed.]

HARRY LATHROP, it may make better honey to extract the uncapped portion before uncapping, as you advise, p. 1128, but it makes a lot more work. Then still more work will be made by the increased amount demanded by consumers when the honey is all of such good character. Seriously, I'm not sure that it would not pay in the long

run to extract in advance all the unsealed honey, even if it were thrown away. [This is a question that hinges a good deal on locality. In Colorado and California I would never think it necessary to extract the combs before uncapping. In most localities the unsealed cells contain honey that is perfectly ripe. I should question whether in most places the extra labor of extracting twice would be necessary.—Ed.]

"THE FURTHER off toward the black we get from the three bands, the poorer the bees average for honey," says G. M. Doolittle, p. 1138. That starts some questioning. I have no doubt of its truth, with that word "average" as applying to general results all over the country. But there are exceptions to general rules; and when one finds among his bees that have gone from the three bands toward the black something that brings in the honey away ahead of any of the three-banders, should he breed from such off-colored stock, or hustle back to the three bands? Again, if getting toward the black from the three bands gives poorer bees, is it not true that the further off toward the yellow we get from the three bands the poorer the bees average for honey?

A SUPER containing 45 1-lb. sections is favored by W. K. Morrison, p. 1130, and he asks, "If one super will do the work, why use two?" With many the difference in weight in handling is a sufficient answer to that question. It is possible that the larger super reduces the number of under-weight sections, but is that not greatly overbalanced by the fact that it largely increases the number of unfinished sections? [But a super containing 45 one-pound sections is too large to give to one colony all at once. Small supers for many localities, containing not more than 20 or 24 sections, are far better than those that are larger. If bees are to do much in comb honey they must have a compartment small enough so that they can warm it easily to the proper comb-building point with their body heat. But Mr. Morrison lives in a tropical locality, and hence his 45-section super may not be too large.—Ed.]

OF 160 COLONIES run for comb honey that were fair subjects for comparison, 13½ per cent went through the season without ever offering to start queen-cells; 12½ per cent started cells one or more times, but gave it up when their cells were destroyed; and 73½ per cent seemed so bent on swarming that they were treated by being kept queenless 10 or 15 days. The colonies that were left with their queens all the time averaged 36½ per cent more sections than those that were treated. But that's better than they would have done if left queenless for 21 days, which would be the case practically if swarms were shaken. [My! oh my, doctor! Why didn't you get your percentages closer—get them down to the hundredths of one per cent? All'e same'e, it would be far better if we could draw our conclusions from exact figures than from mere estimates or poor guesses.—Ed.]

W. K. MORRISON, p. 1130, says his experience is opposed to the statement that shallower frames cause more pollen in sections, but doesn't give us particulars. Friend Morrison, the experience of myself and others has been that with Langstroth and shallower frames, side by side, there was ten times as much pollen in sections over the shallower frames. Did you have more pollen over the deeper frames when the two were side by side? The "shallow frame in England" is cited. That probably refers to the "Standard frame" in general use there. It is 8½ in. deep, outside, 8 in. shallower than the Langstroth; but the thicker bars of my Langstroth frames make the inside, or comb-room, the same in each, 8 inches. [But look here, doctor. If I am correct, your conclusions in this matter are based on the use of less than half a dozen shallow hives that I sent you, one and possibly two seasons. Thousands of shallow hives are used with very little complaint of pollen in the sections. Try fifty colonies for several seasons in shallow hives, and fifty in the standard Langstroth. I think you would find the difference not so great as you now think.—Ed.]

J. A. GREEN says, p. 1121, that if sections are kept in the supers they are piled up closely together. Not by any means; blocks are put under the corners to give ventilation; that's the way I do, and also others. And I don't understand, friend Green, what advantage there is in having another set of receptacles to hold the sections. [I have been in the honey-houses of many bee-keepers; and so far as I can remember the filled supers of comb honey after removal from the hives are generally piled one on top of another in close contact. Surmounting the piles is the cover. The assigned reason for shutting up these combs bee-tight is to keep out robbers that might accidentally get into the room should the honey-house door be left open. Even if the building be well screened, and the screen door itself have self-closing hinges, there is always danger that robbers may get into the building. To this extent I believe Mr. Green is correct. If it is an ad-

vantage to have the sections exposed to dry hot air (and I thoroughly believe it is) after they are removed from the hive, then let us publish the fact far and wide. This is a good subject for discussion, and we should be glad to hear from our subscribers on the point.—Ed.]

C. P. DADANT says in *American Bee Journal* that 8 or 10 pounds is a fair estimate of the honey consumed by a colony wintering in cellar, and nearly double that by a colony on summer stand in a cold winter. According to that, for the labor of carrying in and out one would get about 8 pounds of honey for each colony. Good pay. At the same time, I'd be glad to feel sure that the cellar colony is just as well off in all respects. [I believe our friend Dadant is not far from the correct estimate; but it has never been proven yet that the extra stores consumed outdoors have been wasted. There are quite a number of bee-keepers, on the other hand, who winter outdoors, who believe that the out colonies are more vigorous, have more brood, and are able to get into the supers sooner than those from the cellar. We have been making observations on this point for several years. Some seasons we feel that the outdoor-wintered bees are ahead, and others we can see no difference. My own conclusion at the present time is this: That, in case of strong colonies at least, if they be kept outdoors as late as possible, and set out as early as possible, and, when set out, protected, such bees will be ahead of those put into the cellar early and taken out late. With a good dry cellar, and a temperature under reasonable control, I feel satisfied that we could earn a bigger dividend in the saving of stores by putting our bees into such a cellar than by leaving them outdoors all winter in double-walled hives. But here, again, locality plays a very important part. Where the winters are more or less open—that is, permit of flying days in December, January, and February, then the outdoor method should by all means be used. There will be too many bees lost in the cellar in such a locality, because the cellar will be a good deal too warm at times.—Ed.]

THE MAN who reads carefully that article of G. M. Doolittle, page 1137, is likely to do some thinking; and if he's as ignorant as I am he'll get more or less tangled up about race, species, variety, purity, etc. The gist of the whole article lies in that last paragraph; and insistence upon having queen-breeders send out only the best can not be commended too highly. But I wish Brother Doolittle had been just a shade more definite. He says, "We can not be certain of this best bee only through its markings;" but what are the markings? To be sure, he says, "The further off toward the black we get from the three bands, the poorer the bees average for honey," and that might be understood to mean that three bands were to be considered the standard. But there's that "toward the black," leaving it possibly to be read between the lines that getting

toward the yellow would not lower the standard. But when we get away from the three bands toward the yellow, don't we have a grade just as much as when we get toward the black? The question is, "What does he consider the standard? and if three bands, then how are we to tell the three bands?" for he knocks out the A B C test, but gives us nothing else in place of it. [I do not think there are many authorities who will agree with friend Doolittle in his statement concerning Italian bees and what constitutes their purity, if I understand his position. The average Italians are three-banded, and, so far as I have observed, just as fixed as any other race of bees. Why! Carniolans sport to yellow in their native land, I am told. There are a few types among Italians that will sport toward four and five bands, and some that will show only two bands distinctly, the third being visible only when the bee is filled with honey. The fact that four and five banded bees, if left alone, will gravitate back to three bands shows that such marking is the *normal* type. Another fact is, that one and two banded bees are generally cross, and show more or less of the characteristic of the German or black race. As stated at the outset I am not entirely sure that I disagree with Mr. Doolittle, for, like yourself, I do not quite know where he stands; but from certain of his former articles I have gathered the opinion that he does not consider the Italians a pure race, and that they have no fixed type. If that is his opinion, then I think the majority of the bee-keepers of the country will disagree with him. —ED.]



FOUL BROOD TO BE ERADICATED FROM TEXAS.

In the twenty-eighth General Assembly of Texas, Hon. Hal. Sevier introduced a bill known as House Bill No. 293, "An act to provide for the protection of honey-bees against foul brood, etc." A copy of this law was given on page 469 of GLEANINGS. This became a law March 30, 1903. It was put in charge of the State Entomologist; but as no appropriations were made for executing this law it could not be operated during the last two years. The last General Assembly, however, appropriated \$800 a year. This law became effective September 1, 1905. For a number of years other States were provided with inspection laws and inspection officers to protect the fruit and agricultural interests of their States. Texas had no such provision until September 1, when both these laws were put into

operation, the nursery-inspection law being in charge of the Commissioner of Agriculture, while the foul-brood law was placed in charge of the State Entomologist. All bee-keepers of the State are earnestly requested to co-operate with the State Entomologist, Prof. Albert F. Conradi, by making known to him all known or suspected cases of foul brood or other contagious bee diseases. Prof. Conradi has the interests of the bee-keepers at heart, and is determined to use the foul-brood law to the best possible advantage in ridding Texas of this scourge. It is present in but few localities in the State yet; and, if properly taken in hand, I believe it can soon be stamped out. This done, and further introduction prevented, the Texans can boast of their State being free of foul brood.

Such rules and regulations will be published for operating this law as to render it the most effective. Very frequently persons are inclined to look upon an inspection law as a necessary evil. This is far from being true if the law is operated in a proper manner; and with the co-operation of the bee-keepers of the State a great amount of good can be accomplished toward the eradication of foul brood, the most virulent of bee-diseases, which occurs in a number of localities in Texas.

ADDRESS THE STATE ENTOMOLOGIST.

All communications regarding matter pertaining to foul brood should be addressed, State Entomologist, College Station, Texas, and not to members of the office staff; for if such a member should be absent, reply to the communication would be delayed. This is very important. Telegrams and letters addressed to a member of the staff have been received at times when they were away, and no action could be taken on the matters in question. As the Entomologist has no authority to open communications of this kind, no immediate attention could be given. Therefore, please remember to address all official mail to the State Entomologist, because when he leaves the office there is an arrangement with the clerk to open all such mail and take such action as may be necessary. To any letters addressed to the office staff, the State Entomologist will not be responsible for immediate attention.

A NOTE OF WARNING.

Bees must be inspected before being brought into the State of Texas. At this time inquiries are received at the office of the State Entomologist from parties outside of Texas, requesting permission to ship their bees into the State for the purpose of establishing apiaries in Southwest Texas. All bee-keepers of the State are urged to read Section 4 of the Texas foul-brood law, which provides that no bee-keeper shall "barter or give away any diseased colonies of bees, honey or appliances, nor expose any other bees to the danger of infection of foul brood. Bee-keepers acquainted with the conditions of Southwest Texas should be convinced of the extreme danger connected with such a

procedure. Two prominent localities of infection are known to have received foul brood from bees shipped into the State from Illinois and Iowa. Had we been in position to take proper precaution this introduction might have been avoided. For this reason a revision of section 4 of the Rules and Regulations for controlling foul brood reads as follows: "No person shall ship, barter, or give away bees, honey, or appliances, from any other State or country into this State, nor shall any person in Texas receive such unless the bees, honey, or appliances in question have been thoroughly inspected, before reaching the State, by a competent inspector; and that this inspector has made report in writing to the State Entomologist of Texas, giving in detail the condition of the apiary, and full assurance that the apiary is apparently free from contagious diseases."

DO NOT SEND SAMPLES OF DISEASED BROOD.

Bee-keepers are cautioned not to send diseased brood or comb through the mails for identification at the office of the State Entomologist. Of course, if this were done in the proper manner it might not be dangerous; but ordinarily there would be some danger of spreading the disease to other localities, and especially so should the wrapping not be sufficient to keep the material from spreading through the mail-bag. Packages of all kinds are sent to this office, hundreds a year. Many come all smashed up, some having only a newspaper around them, with the address and stamp on it. When they arrive at the office some are as flat as a piece of cardboard.

Any one having diseases among his bees is requested to write to the State Entomologist, in which case special provision will be made for sending the specimen or for visiting the apiary and inspecting it. We should not forget that the cause of foul brood is a microscopic bacterium known as *Bacillus alvei*, and the danger of infection by careless handling is great. Any one not having had experience in treating foul brood should write to the State Entomologist for instructions, or apply to some experienced bee-keeper in his neighborhood who has treated foul brood.

RULES AND REGULATIONS BY THE STATE ENTOMOLOGIST FOR OPERATING THE TEXAS FOUL-BROOD LAW.

These rules and regulations will be followed in the foul-brood-inspection work and the treatment of the disease.

1. If any owner of, or any person having control of honey-bees in the State of Texas, knows or suspects that any bees so owned or controlled are affected by foul brood or any other contagious bee disease, he shall report said fact to the State Entomologist in writing, stating the number of apiaries involved, the number of colonies in each apiary, and the number of colonies that are known or suspected to be infected with foul brood or other contagious bee disease.

2. Any owner or person having control of

bees, reporting infestation, shall state the number of movable-frame hives in each apiary, also the number of box hives, or such hives as will not admit of ready examination.

3. If any bees are kept in box hives, or such other hives as will not admit of ready examination, the owner or person in charge will be notified by the State Entomologist to transfer all bees in the apiary to movable-frame hives, or such as will admit of as ready examination as any good modern-frame hive, before a specified time. If for any good reason such a time is detrimental to the apiaries involved, the reason should be transmitted in writing to the State Entomologist, whereupon a date more agreeable to the owner or person in charge may be arranged for. In the default of such transfer as provided for above, the case will be treated according to sections 1 and 2 of the Texas foul-brood law.

4. When upon inspection an apiary is found to be infested, instructions for treatment will be given. If the owner or person in charge fails to carry out such instructions, the State Entomologist or his assistants will give the necessary treatment at the expense of the owner, as provided for in section 3 of the Texas foul-brood law. Every person who intends to barter, give away, or receive bees, honey, or appliances, should make certain that no infection is carried in such transactions or shipments. Where any doubt exists, application should be made to the State Entomologist for inspecting the apiaries involved. Persons violating the provisions of this rule are deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in any sum not exceeding two hundred dollars, as provided for in Section 4 of the Texas foul-brood law.



THE BEE JOURNALS OF THE WORLD.

With the possible exception of poultry, the bee is the center of more journalism than any other creature cultivated as a branch of farming. This is said in reference to the whole world, for in this country the poultry journals far exceed in number those devoted to bees, while, so far as I can learn, the reverse is true of Europe as a whole. The great amount of bee literature in France and Germany in particular is due to the fact that European society is far more highly organized into guilds and unions than here, nearly every union having some journalistic mouthpiece. In some instances, if not all, the members of these or-

ganizations get a copy of their own journal free on payment of the annual dues, while others get these papers at a very low price.

France and Germany have most of the bee journals in Europe, as the French and German languages are more widely spread there than other tongues; besides, geographical location would account for that to a great extent.

Another reason for the large number of bee journals in Europe is the attention paid to apiculture by scientific men and by governmental authorities. The food supply in Europe is a serious matter, and hence we need not wonder that so important a factor as the bee is an object of great regard there. The dreadful famine in Spain, and in many districts of Russia, whereby millions of people are famished, is sufficient proof of this, to say nothing of the old saying that an English breakfast depends almost entirely on the condition of British shipping.

I have often tried to satisfy myself as to whether the bee is more profitable from the standpoint of wax or honey, but I can't do it. Somebody once wrote from Cuba that the bee would receive all the attention there it does now, even if the honey were given away, as the wax is the thing sought for. It is so much used in the arts and sciences, to say nothing of its great use in religious ceremonies, that it will probably always command a high and still higher price.

This preliminary moralizing may seem to have but little connection with bee journals, but it has much. I believe it will create a higher interest in the bee itself, as Prof. E. F. Bigelow says, page 1187, should be the case, and enhance the interest we feel in an exchange of experiences and ideas. And I like to moralize.

There are many people now in this country who kept bees in Europe; and as we are often asked concerning the addresses of foreign journals I have thought best to make out a new list of them, beginning with the French. The first I come to is entitled:

L'Apiculteur (The Bee-keeper). For me this is the most interesting of foreign exchanges outside of English. Its chief attraction to me, however, is what I find in it over the name of C. P. Dadant, of Hamilton, Ill. This journal, as some may remember, was for some years an active opponent of movable-frame hives as advocated by the elder Dadant; but he lived to see his claims more than substantiated, and his son a contributor to columns in which he himself once received many a sound drubbing. The editor is M. Sevalle, 28 Rue Serpente, Paris. This journal is the official organ of about thirteen bee-keepers' associations.

L'Abeille et sa Culture (The Bee and its Culture) is a good journal, published by M. H. Stassart, 165 Ahin, Huy, Belgium.

La Gazette Apicole de France is printed at Montfavet, Vaucuse, France.

Le Rucher Belge is printed at Liege, Belgium, by M. Strauven. It is one of the best of foreign journals, standing side by side with the one first mentioned.

Bulletin de la Societe d'Apiculture de Tunisie. This, though French, is printed in Tunis, Africa. It contains much that is peculiar to that country, and hence is of especial interest. A recent number contains a fine view of an apiary in Tunis, situated on a steep side hill. It has a modern and artistic look.

Progres Apicole is a neat little journal under the editorial charge of S. Thibaut, Montsur-Marchienne, Belgium. An edition in the Flemish language is also published.

Les Abeilles et les Fruits. This journal has apiculture as one of its departments, but is interesting all through. It is published at Maizieres-Chevillon, Haute-Marne, France.

Nah'la (an Arabic word for bee). This fine journal is printed in Algiers, Africa, hence its Arabic name. It contains much of interest peculiar to that country. Address Dr. Trabut, Algiers.

L'Abeille Bourguignonne. This is one of the leading bee journals of France, and one which is always a very welcome visitor here. Address M. Godon, Champlay par Joigny, France. It appears six times a year. The issue for November cites several remarkable cures of rheumatism effected by stings.



It is with much regret that we learn that Clarence Dittmer, son of Gus Dittmer, of Augusta, Wis., his right-hand man in foundation work, was accidentally shot while out hunting in Kansas, the shot passing near a large artery, making the wound a very serious one. His friends, however, have hope that it will not terminate fatally, although the doctor reports the case a very critical one. The young Mr. Dittmer is a very estimable young man, and GLEANINGS hopes for his speedy recovery.

A. I. ROOT TO REAR QUEENS THIS WINTER IN FLORIDA.

As Mr. A. I. Root's health is hardly rugged enough for him to stand our Ohio winters, he and Mrs. Root will probably go to Florida. We younger "Rootites" have been urging it, but he refused to consider it until I told him the Root Co. wanted him to go south and rear queens in baby nuclei. He has about made up his mind to try the experiment. We are going to send him with some choice breeders.

Incidentally our older readers will be glad to know that the founder of The A. I. Root Co. and of GLEANINGS will go back to his old love, the bees. If we can once get him interested in the new methods of queen-rearing

we shall expect some interesting developments. Just where he will locate in Florida he has not yet definitely decided.

CHANGE OF DATE FOR THE NATIONAL.

THOSE who expect to attend the next National convention in Chicago will note the change of date, this time made necessary by the change in the time of the fat-stock show. The National has to be set at the same time in order to secure low railroad rates. The convention will be held Dec. 19, 20, 21, in Brunt Hall, Bush Temple of Music, instead of the Revere House. Several members of the Root Co. will be present. We shall be glad to see all of our old friends and as many of the new ones as possible.

FEEDING BEES IN THE CELLAR.

It will probably happen that some colonies have been neglected or overlooked, and, as a consequence, are short of stores. If it is cool or cold weather it will be no use to feed syrup in feeders in the hives outdoors; for bees will not take liquid food cool nights or during cold weather. Better wait till putting the bees in the cellar, then put a pepper-boxful of thick syrup right over the center of the cluster. Bees will take syrup in the cellar; but as they will not be able to ripen it, it is far better to feed in warm weather earlier in the fall.

If you have no cellar, and are compelled to winter outdoors some colonies that are short, lay a chunk of queen-cage candy right over the cluster on the frames. This is made by mixing powdered sugar and honey into a stiff dough; cover this up with a good warm cushion and slip a telescoping cover or tight box over the whole.

THE HONEY CROP LAST SEASON THE SHORTEST IN MANY YEARS.

THERE are many things that go to show that the honey crop for this season, when we consider the whole United States, and Cuba as well, is the shortest in many years. A month or so ago, from the best evidence in hand, it appeared that the amount of honey actually secured was about the same as last year, which was a short season. When the supply of Michigan honey is gone there will not be very much fine table honey left, in our opinion. There ought to be from now on a rapid stiffening in prices, unless, forsooth, a lot of bee-keepers are holding back, preparing to dump their crop on the market at their convenience, or as soon as they "get around to it," which will be after the holidays.

WHAT KIND OF PACKING TO USE FOR OUTDOOR WINTERING.

THIS will depend a good deal on what material is readily available. Ground cork probably stands at the head; but as it is expensive in most places we must consider it

out of the question. Next in order I would place wheat chaff, next oat chaff, planer-shavings, and forest leaves. The coarser the packing material, the more of it should be used. For instance, a cushion of forest leaves should be about twice as thick as one made of good wheat chaff. Sawdust and clover chaff are a little too dense; and if they once get moist they are not inclined to dry out. We have tested all the different packing materials except ground cork, and their excellence is in the order named above.

BLACK QUEENS HARD TO FIND.

A FEW days ago a prominent queen-breeder sent us some letters from one of his customers, complaining bitterly that some Carniolan queens that he had sent them were "no good;" that he had introduced them, but when he went back to the hive he could not find them. He acknowledged that the golden Italians received at the same time were all right, and nicely introduced; but every one of the Carniolans was missing because, being worthless, the bees killed them. I was called on to arbitrate the matter. The queen-breeder averred that Carniolan queens were black, and often hard to find, and might easily escape scrutiny. I wrote to the complainant, suggesting that probably the queens were in the hives, and asked him to make another and more careful search. This he did, and was frank enough to acknowledge he had found every one of them, and begged Mr. Queenbreeder's pardon.

Right here score a point in favor of extra-yellow queens or extra-yellow stock, and a point against black stock. It is a well-known fact that black queens are always hard to find, partly because the bees are nervous, and run, and partly because the queen, not looking different from the other bees, easily escapes observation.

WHEN TO WINTER INDOORS AND WHEN TO WINTER OUTDOORS; THE VALUE OF DOUBLE-WALLED HIVES.

ALTHOUGH I have answered this question several times before, yet a number of inquiries would seem to require its repetition. Generally speaking, the indoor method should be followed in localities where the winters are more or less open—that is to say, when there are warm flying days in almost every month throughout the winter, two or three days in a month. In such a locality the occasional warm days would cause a good deal of trouble in the bee-cellar, which would necessarily be affected by the outside temperature to a great extent. If the cellar be too warm, running up to 60 some of the time, there will be a good many bees flying out and dying on the cellar bottom. On the other hand, in localities where the winter remains cold, below a freezing temperature for practically three months or more, then the indoor plan should be follow-

ed, to save stores if nothing more. While bees *can* be wintered outdoors if warmly packed in double-walled hives in cold climates, the consumption of stores is something enormous. But even then I would use the outdoor plan if I did not have a good dry cellar where the temperature could be kept under reasonable control — not lower than 40 nor above 55.

When there are a good many flying days in the winter, and the bees can gather natural pollen as early as the first of March or the latter part of February, they may be wintered in single-walled hives; but even then there ought to be a super on top filled with packing material. The top of the hive should be kept warm, for this is far more important than keeping the sides protected and not the top; but in almost *any* locality a double-walled hive will save stores and bring the bees out in better condition in the spring. It is always advisable, *where it can be done*, to put cellared bees into protecting cases when they are set out in the spring.

From some observations we have been making, it almost seems as if the double-walled hive would pay for itself even in summer. Rainy weather or cool nights, even in summer, have a very depressing effect on a colony that ought to be busy at work in the supers; yet because those supers are not sufficiently protected the bees will draw down in the brood-nest and waste valuable time.

THE HONEY-MARKET.

It is gratifying to us to note by the number of letters which have reached our office within the last ten days from bee-keepers and dealers in the clover belt, that is to say, from the Mississippi Valley east and north from the Ohio River, that there is a decidedly favorable tone to the market for Eastern honey. So far as our information goes, a very large percentage of the better grades has left the hands of the producers, and dealers have only fair stocks.

In this connection, we are led to remark that we have often noticed, and many times have called attention to it, that even with a dull market fancy honey is not a drug. To be sure, we have been criticised when we have made this statement, a good many times. Our critics, however, have not been able to say that their honey was fancy in every respect. Either the quality was lacking, or the manner in which it was put up, or some other condition by which it failed to bring a good price and ready sale.

COST OF POOR SHIPPING-CASES.

Too much can not be said in favor of extreme care in putting up a fancy article. Look into any first-class grocery-store and see how much care is taken in putting up the fine grades of well-known goods. No cheap packages are tolerated, even though the product is an article which sells for not more than ten or fifteen cents. We lately had a letter from a well-known bee-keeper

who visited one of the large city markets and saw some honey put up in cheap home-made cases. He made no criticism of the honey; indeed, I believe it was a nice article, for it was produced in one of the best clover sections of Michigan. It was, however, put up in cheap cases. I presume the cases would not cost more than about one-third the price of the standard 24-lb. shipping-case as listed by various manufacturers. The merchant, however, admitted that this honey would have to be sold at from one to two cents per *pound less* than its real value on account of the cases it was in. The actual cost of the best shipping-case on the market would not be more than three-fourths of a cent for each pound of honey contained in the case, while the poorest case would cost, we will say, three-eighths of a cent. Therefore, for a saving of three-eighths of a cent per pound, the producer was actually losing from one to two cents per pound, according to the statement of the honey-merchant himself.

PRODUCING FANCY HONEY.

Now that the busy season is past, and plans are being laid for a new year, we want to urge again the importance of selecting good hives with the best supers, so that the crop produced will have the largest percentage of fancy honey that it is possible to obtain. Ill-fitting separators or poorly constructed supers often result in the production of a crop of No. 1 honey, while a slight additional expenditure of time and money might give a crop of fancy honey instead. True, the season may influence this to some extent; but poorly made supers, allowing the escape of heat, and bulged combs, occasioned by poor separators, or none at all, often turn a crop of fancy honey into No. 1; and whatever may be said of the condition of the honey market, it is *always* true that No. 1 honey has slower sale than fancy, and, of course, at a less price. Furthermore, the poorer the condition of the market the greater is the difference in the price of these two grades. With an active market, the difference between No. 1 and fancy may be figured at about one cent per pound. With a dull market there is often a difference of two cents per pound. This, of course, affects very materially the profits of the bee-keeper, a greater part of which could have been saved by the selection of suitable appliances.

ADULTERATED BEESWAX.

As a general thing, wax shipped to us in large or small lots is pure; but occasionally we get hold of a shipment that contains either tallow or paraffine. All such we reject of course. One whole barrel came from a bee-keeper recently who had evidently bought it believing it to be pure. When it reached us, examination showed that it was but little better than ordinary sealingwax. As nearly as we could determine, it contained pitch, crude oil, rosin, paraffine, and,

in fact, a little of every thing of a waxy nature. Now, we know positively that the man who sent this barrel is absolutely honest, for he would not knowingly send us adulterated wax. In buying up wax, beekeepers ought always to be careful of whom they buy, and then examine every cake. Wax containing tallow will smell like old grease, and it will feel greasy on the outside. That which contains paraffine is quite liable to escape detection. It is usually of a very bright and partly transparent color; looks very nice—nice enough, in fact, to pass for first grade; but if it be chewed, instead of crumbling up in a few minutes it will act like chewing-gum.

CAUCASIAN BEES; IF GENTLENESS WERE
THEIR ONLY REDEEMING QUALITY WOULD
THAT BE SUFFICIENT REASON FOR IN-
TODUCING THEM INTO THIS
COUNTRY?

I BELIEVE it is generally admitted that Caucasian bees are gentle; but how much more amiable they may be than the average Italians is not yet made clear. As a matter of fact there are some strains of yellow bees that are as gentle as one ought to desire; that is, they will offer attack *only* when the hive is bunglingly or roughly opened or the frames unnecessarily bumped or dropped. If a colony of bees is gentle enough with ordinarily decent intelligent management, what more do we want? If a hive of Caucasians will stand all kinds of rough treatment—a treatment that no reasonable person would say was necessary, and yet lack good wintering and honey-gathering qualities, wouldn't we say that we prefer to have bees that are a little crosser, and yet which will be perfectly gentle with proper handling? Admitting that the Caucasians are gentler than the average strains of Italians (and I do not know that that claim is proved yet), there is one serious objection to these bees; namely, that they look so much like the common black bees of this country (at least those have that I have seen) it would be simply impossible to distinguish between the two races by the markings only. Then how could we distinguish the common hybrid (Italian and black) from a crossing of Italians and Caucasians?

It is to be presumed that the average queen-breeder is honest; but not all of them are disposed to be liberal in their treatment of customers. Let us assume, for example, that Jones is rearing Caucasians in a locality where there are some blacks in the woods and among his neighbors' bees. How can he guarantee pure tested queens of Caucasians to his customers? If he were not strictly honest would he try to palm off half-bloods for pure? Breeders of this race should be located in an isolated place or on some island. In addition the customer should have some assurance that the man or the firm will sell only pure blood.

I am well aware that the same objection might apply to Carniolans (though to a less-

er extent), and I may say this has been a very serious one. But pure Carniolans are easily distinguished from pure blacks; and it may be that Caucasians are, but those I have seen are not.

Now, having said this much I am not disposed to say we should make no effort to propagate this race in this country. Even if they had only the one redeeming quality (gentleness) there would be a demand for them from beginners and city people. There are not enough of these bees here yet to warrant positive conclusions; but I say this: If Caucasian bees look so nearly like the German or black bee that even experts will be puzzled to tell one from the other, it will be a serious drawback. On the other hand, Italians have certain definite and distinctive markings (I do not quite agree with our friend Doolittle on this point), and any variation in the average type showing more or less than the three yellow bands can be recognized on sight.

TOO MUCH VS. LITTLE OR NO VENTILATION
IN BEE-CELLARS.

THE editor of the *Review* is inclined to believe that bees do not need very much ventilation in the cellar, and cites various instances to show how colonies have been wintered with closed entrances, and in buried clamps where little or no air could get to the bees. Some men can drink to excess all their lives, and yet not seem to suffer much from it. But these cases do not prove that drinking to excess is harmless.

While there are some cellars and some conditions where little ventilation may be required, I believe the *average* bee-keeper would lose more bees with little or no ventilation than with too much. Bees are warm-blooded animals like ourselves, and vitiate enormous quantities of air in a comparatively short time. Why, the bees in our shop cellar get so uneasy without fresh air that I verily believe they would crawl over the cellar bottom and die by the tens of thousands. We keep that inner compartment ventilated all the time, and the number of bees on the floor are so few that one can walk through between the hives clear up into February and yet step on hardly a bee. We have tried to shut up the cellar for a day or two, but it was always attended by bad air and an uneasy roar. In a word, I believe it would be safer for the *average* person to err on the side of plenty of ventilation than not enough of it. More people suffer from hard colds because of a lack of good air than because of too much of it. Bad air is always a foe to good health.

The fact that *some* colonies have wintered successfully with absolutely closed entrances, as cited by Mr. Hutchinson, does not prove that this would be good practice generally. Last year some fifty of our outdoor colonies accidentally got their entrances closed with ice for only a month. Result, *nearly all of them died*, while all those with *free* entrances came through in good shape.



THE CONTROL OF SWARMING.

A Device Designed to Keep Down Increase
While Securing a Crop of Honey, and
Requeening if Desirable.
A Valuable Article.

BY J. E. CHAMBERS.

During the past three years I have made a good many experiments in trying to perfect a simple mechanical device and to evolve a system of manipulation to go with it that would enable the apiarist to control swarming effectually, secure a crop of honey, and requeen his colonies at one and the same time; and having met with good success along the lines of my experimenting I have concluded to tell the bee-keeping public the results of my work. In doing so I am aware that much of it is not new, and perhaps not original; but I also know that no living man has covered exactly the ground that I have in this work, nor has any other man ever given out any thing that aimed at accomplishing the three vital objects just named.

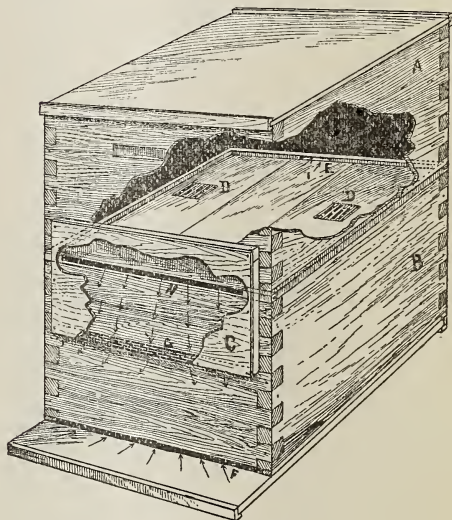
In the illustrations, A represents the top story of a hive, and B the bottom, or the lower story, with the dividing-board and chute in correct position on the hive; and the entire construction and method of application are so clearly shown that any extended description is unnecessary.

The dividing-board is simply a board cleated on the two upper sides and rear end. The front end is not cleated, and forms the opening shown at H. Two passage-holes are bored through, and covered with zinc, as shown at D D. The purpose of these holes is to maintain a certain degree of communication between the two hive-bodies, and to guard against the possibility of the young bees in hive A deserting in too great force. In the rear end of the dividing-board a small opening covered with zinc is shown at E. This serves as a flight-hole, and helps to arrest and fix a certain number of bees; for by numerous experiments I found that, without these holes to act as counter-checks, the entire force will desert from hive A above, thus leaving the brood and queen unprotected to starve; but through the holes D D sufficient nurse bees come up from hive B to prevent this, and this trouble is overcome.

The chute is made by nailing together two pieces of timber, 1×1, 6 in. long, and one piece 1×1, 14 in. long, and covering one side by nailing on a thin board 6 in. wide and 14 long, as shown at C, and attaching a strip of zinc one inch wide and 14 long over the exit, shown at G. For deep hives it might be advisable to make the chute a little deep-

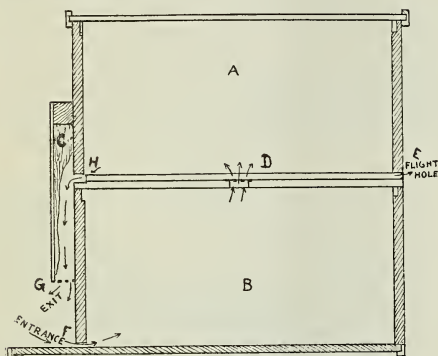
er than 6 inches, in order to bring the flight of outgoing young bees down nearer to the entrance shown at F, thereby causing them to mix up with the field force going in there; but in no case should the exit G be nearer to the entrance F than 4 in.; for if brought in direct contact it might induce some of the bees to go back by the route they came, though the perforated zinc acts as a great check on such an attempt.

In using this device there are three different systems of manipulating, any one of which can be used with good results. The one I use mostly in my own apiaries is, I think, the best and easiest for extracting colonies; but for comb honey either of the others is better. Just as soon as a colony makes preparations to swarm I begin work. Selecting one comb and adhering bees I make sure that the queen is not on it. This comb should contain two or three cells well



started. I now place this comb in the center of the hive represented by B, and fill up the vacant spaces with empty combs or full sheets of foundation, as bees working under these conditions can not be depended on to build combs. I now place the dividing-board in position, as shown in the illustration, and set hive A over it. Nailing on the chute completes the operation for the present, except that a record of the stage of development in which the cells were at the time of manipulating must be kept, and should be marked on the hive so as to be readily seen. With this record to go by, the hive can be opened at the proper time and all cells cut, except one of the best. The hive is then closed, and requires no further attention until time to remove the dividing-board and reunite the colony, which is as soon after the young queen begins to lay as possible. However, it is not absolutely necessary to be exact in this matter, as no harm will result if both queens are left in

the hives for a considerable time; but with me I prefer to remove the board in order to finish up the operation and give the young queen full sway at once. One important point to be considered in using this plan is that, should the young queen be lost on her mating-flight, as you have the old queen to fall back upon no great damage will result. I consider the requeening feature a most important one, as I have seldom known a colony with a young queen to make much effort at swarming, and in this locality not one colony in a thousand will swarm after this manipulation.



When running for comb honey I have found it best to use starters in the lower hive, B, just the same as in brushed swarming, except giving no frame of brood; but shake the old queen in front of the entrance F, and put the case of sections directly on hive B, and the dividing-board over the sections, and hive A on top of all. In this way it will be necessary to give a mature queen-cell from some other source, as the constant desertion of bees from hive A will leave it in poor condition to rear good cells. In this case it will, of course, be necessary to uncover the flight-hole E to allow the young queen to mate, after which the old queen can be removed and the whole force reunited, or you can allow the bees to remove the old queen by simply exchanging hives a day or two before taking away the dividing-board.

There is still another manipulation possible; and if it is desirable to requeen from choice stock, or to change stock, I recommend it in preference to the above plan; and as the colonies having mostly drones will be zinc-covered, there will be but little trouble from undesirable drones flying. In this last operation proceed as in the first, but give four frames of as nearly sealed brood as can be gotten; and as soon as cells are well under construction remove the larvæ in them and graft with larvæ from the desired stock. A few colonies treated thus will furnish all the choice cells you need; and when you manipulate a colony, give one of these choice cells. I advise the use of cell-protectors, for bees will sometimes destroy cells, even when queenless; and a cell-

protector insures acceptance. Proceed in this way through the entire apiary; and by the time the young queens are ready to mate you will have all bad drones behind zinc, and the fine queens will be almost sure to meet the right drones.

In this article I have but barely outlined the possibilities of this simple device and system; in fact, I am constantly finding out more about it, and expect to be able to improve it in several ways; but as it is now, I think it far ahead of any other non-swarming device that I know of.

When rearing queens for requeening, a cell-bar containing the Doolittle dipped cups can be used if desired. Simply use the royal jelly found in the natural cell-cups, to prime the artificial cups, and then transfer your choice larvæ to them and place in between the combs of brood, and you will get as fine cells as by any method in existence.

In conclusion I will say that it is my practice, when running for extracted honey, either to give more room or extract as soon as the young queens begin laying. All will keep this in mind, as a crowded house is often a prolific cause of trouble.

Vigo, Texas.

THE TRUTH ABOUT CAUCASIAN BEES.

My First Season's Experience with them.

BY D. EVERETT LYON, PH.D.

In the *American Bee-keeper* for October I notice that the new Caucasian bees are referred to as "the most worthless race of bees that has ever been offered to the American public;" and lest a false impression be given concerning this noble race I desire to enter a most emphatic protest.

Without hard feeling, I am inclined to believe pretty strongly that the gentleman who gave the above characterization of Caucasians is entirely ignorant of an acquaintance with them, or else he never possessed the pure Caucasians.

Will the writer of the above-quoted paragraph tell us whether he has actually handled and studied the habits of Caucasians? or is he taking the opinion of some one else? My experience with them is just the opposite, and I know that they are not a worthless race of bees, but, on the contrary, a valuable acquisition to present valuable races.

Mr. Frank Benton, the government apiarist at Washington, in a letter to the writer, states that they are the gentlest of all races; are good honey-gatherers, holding their own with the Italians in this respect, and can be manipulated without smoke, veil, or gloves.

This season I gave them a thorough trial as to gentleness — pulled hive-lid off, jarred the frames, and, even when they were being robbed during late fall, due to carelessness in leaving some honey exposed, even under these conditions I shook them from their combs in front of their hives to test their

tempers, and I have yet to record the first sting.

Now, why will a magazine like the *American Bee-keeper* come out and try to give such a race a black eye?

I suppose it is because they are a new race (I mean, of course, the bees) that they are thus attacked; and I am told that, when the Italians were first discovered or brought out in this country, they were denied the qualities we now know that they possess.

Perhaps the friend who writes against Caucasians imagined he had Caucasian bees when, perchance, they might have been a cross, or the queen had not been purely mated before he got her.

I personally am inclined to think that he did not have any real Caucasians at all. I know they are far being a worthless race.

Mr. E. L. Pratt, of Swarthmore, Pa., has some 38 colonies of pure Caucasian bees, and he has not found them worthless; and his experience and word have great weight with me, for I consider him one of the brainiest bee-keepers in this or any other country, and without an equal in practical knowledge of the habits of the honey-bee.

Give the Caucasians a chance; and before any one condemns them, let him be sure that he has pure Caucasians and not a hybrid.

CAUCASIAN BEES.

Gentle and Industrious, but Bad Propolizers.

BY J. G. BAUMGAERTNER.

On page 1067 the *American Bee-keeper* is quoted as not being in favor of the Caucasian bees. As it may be interesting to receive other reports regarding this race of bees I will give my experience. I have one colony of Caucasians. The queen is very prolific, although she is smaller than most other queens. The workers are exceedingly gentle — so much so that I can at any time of the day open the hive, and jar and shake the combs, without smoke or veil. When one frame is taken out, and bees shaken back over the rest of the frames, they will not fly up, but run right down between the frames. I have never seen any bees that were less inclined to boil over.

They protect their hive well, equal to the Italians. They are uniform in color, but a trifle smaller than other races.

Regarding their working qualities, I had only limited opportunity of testing them, as this year was a total failure. During the four or five days when Spanish needle was in bloom, before the rain spoiled it, I watched them closely, and compared them with other colonies of equal strength (Italians, Carniolans, and Holy Lands), and had the impression that they did as well as any of their competitors. But when it came to gluing up the hive they were at the head too, and in this respect I am displeased with

them. However, I am of the opinion that, if the average run of Caucasians are up to the colony I possess, we have reason to be grateful to the U. S. Department of Agriculture for its efforts in obtaining this extremely gentle race of bees; for, even if they are not superior to some of the other races of bees in working capacity, and the average bee-keeper could get along very well without them, they are, nevertheless, an acquisition to city bee-keepers, where a colony of them could even be kept on the back porch, providing it were placed high enough so little children could not take them in hand. These are also the bees for the timid beginner or the lady bee-keeper.

HOME-MADE WINTERING-CASES; THE USE OF ROOFING PAPER.

I wonder if those 30-cent home-made chaff hives of Mr. McGlade's, page 1078, are better than the wintering-cases I made this fall. I bought some three-ply tar roofing-paper for \$1.25 per roll, and got some dry-goods-boxes, which would usually cost ten cents apiece. However, this time I got them for the hauling. They were made of $\frac{3}{4}$ inch, and one inch stuff. I took every thing that was large enough and too large. The big ones I cut down to the required size. They were made large enough to go down over the hive and leave two or three inches of space all around and on top. Now, these boxes were covered with tar roofing. One roll of paper is just enough to cover eight cases for eight-frame L. hives; so the paper for each box cost about 15½ cents. In preparing the hives for winter I let the bees seal down the cover hermetically (no quilt under it); next, old newspapers or old carpet paper, if folded, in several layers, over and around the hive. On top of this are put old carpets, gunny sacks, etc., sufficiently thick to fill out the space between the hive and case, which is now slipped down over the whole. When the packing is finished, the apiary presents a neat appearance, and these cases sought to last a number of years too. Should the weather affect the paper after a few years, it will not be a great expense to give them a coat or two of the asbestos preparation used on roofs, and then they would be as good as new.

But what is of greatest importance, thus packed the bees will be as warm as or warmer than any chaff hive can keep them; and paper and gunny sacks will not cause such a litter in the yard in spring, when unpacking is going on, as chaff or sawdust would. Of course, some will argue that, with such airtight packing, there is no upward ventilation. But I don't believe there is as much in this upward-ventilation theory as some think. Where is the upward ventilation in the old box hives or in most of the hollow trees, where bees winter perfectly?

New Memphis, Ill., Oct. 20.

[Your winter cases are cheap and good, friend B. I think you will find that they will work well too.—Ed.]

ITALIAN BEES.

Meaning of the Term "Thoroughbred;" a Reply to Doolittle's Statement, Page 1025.

BY JAMES M. PULLEY.

Regarding the use of the word "thoroughbred" in connection with breeding, breeders of fancy stock apply it generally to stock that is of the same breed for three or more generations; for instance, the American Kennel Club admit for registration dogs that can show a clean pedigree of three or more generations—that is, without a foreign cross. Breeders of other stock are governed in a somewhat similar manner, except when the register is first started—as, for instance, when the American Hackney Stud-book was started, I think half-bred mares were eligible (I write from memory), such mares being registered as "half-breeds."

Without considering the Standard or any other dictionary, a breeder generally considers a thoroughbred as one having no blood of another race, or no traceable blood of another race. Going on this ground I should hardly agree with Mr. Doolittle's expression, page 1025, lines 54, 55, 56, "that the Italian was *not* a pure race of bees, but a mongrel or thoroughbred." I fancy brother Doolittle has warmed up the breeders of all kinds of fancy stock by coupling these two words as though they meant one and the same thing.

In breeding parlance, a mongrel, as I understand it, is the combination of two varieties, while a thoroughbred is the careful selection, mating, and production from one variety. It therefore follows that, as long as pure Italians were used, the product would remain of the Italian variety, whether they were men or bees or any other genus.

WHAT IS RED-CLOVER STOCK?

Page 1028 Mr. R. Stuehck asks, "Red-clover stock—what is it?" My experience is that it is the gentlest of all the varieties of honey-bees that have come under my notice. I requeened from a premium red-clover queen I got with my renewal of GLEANINGS in 1904. The queens were a dark lot, and I thought I had made a mistake in a frame of brood; but it was the middle of September, 1904, and too late to raise a fresh lot with any degree of certainty of their mating, so I let them stay. The severe winter killed a number of colonies, but it left me practically all red-clovers, which proved their hardiness. Then I began to find out I could handle them differently, almost without smoke. They went into supers readily when there was a good force behind them, while some others near, with more bees, swarmed, and I have had but one swarm with eight hives, spring count, left after the severe winter. From one of these queens I got an artificial increase of one colony, three 24-lb. sections of honey, and one section on the increase. This was a city lot in a city of 15,000, and a 25-acre pond near by.

NON-SWARMING.

The red-clover bees are evidently strong as non-swarmers. On all colonies of fair to medium strength in May, 1905, I put extra hive-bodies, having full combs, over the regular hive-body. This kept queens busy, and prevented swarming. After raising queens I divided and put a new queen on the old stand and a super on top of the old stand.

FORMATION OF NUCLEI.

I formed these by adopting a regular super so that 13 small frames would fit in it crosswise, with a syrup-feeder running lengthwise (in case of necessity, but did not use it this season). This super was put in between two hive-bodies (eight-frame), full sheets of foundation on super-frames, which latter were made from the shallow extracting-frames. When these small frames were full of brood the upper story and old queen were removed. The remaining body and super of small frames stayed on the old stand, and in ten days they were ready to make nuclei of with ripe queen-cells ready to hatch. The entrance was smoked, and the frames with bees (plenty of them) were put three to a nucleus. There were bees of all ages, and they stayed on their respective new stands most successfully, and in every instance a queen hatched. In two cases *two* apparently hatched in each, and both were missing. Eighty per cent of the remaining queens mated successfully, and successive brood laid by them hatched out nearly equal to full colonies where the queen stayed a few days. With one exception there was plenty of honey in each nucleus all the time, the exception being one that was robbed out. If another queen or queen-cell was not added to a nucleus after taking a laying queen away, the queen-cells started always failed of hatching, evidently lacking heat. I am trying to winter a couple of extra queens by gathering the small nuclei-frames together into supers—bees, honey, and all; and by having a regular box feeder inside I can add to their store by feeding syrup if necessary.

Melrose, Mass., Oct. 5.

[Our old friend Doolittle, I fear, is hardly orthodox in his designation of thoroughbreds and what constitutes pure Italians. See answer to a Straw on this subject in this issue.—ED.]

A PLAN TO PREVENT SWARMING, AND TO RUN FOR COMB HONEY.

Producing Comb and Extracted Honey at the Same Time.

BY J. G. BAUMGAERTNER.

Mr. Root:—I wish to submit to you for criticism the following plan for handling eight-frame Langstroth hives:

I will first describe my situation, "so you may be the better judge." I am located in Clinton Co., Ill. The chief-honey bearing flora here are white clover during spring and summer months; during fall, Spanish

needle, heartsease, goldenrod, and some other wild flowers. Maple, fruit-trees, willows, and persimmons help along a little in spring. Now, if all these could be depended on, or if only white clover and Spanish needle would always yield in their season, I should get along pretty well with my eight-frame hives, using one story as brood-chamber under the comb-honey supers. Too often, however, the one or the other flow is cut short, or fails entirely, or the suspense between clover and the fall flow is so long (the clover being dried out during July and August) that the bees run out of stores in these small hives. There I am—a timber humming with wild bees two miles off, and small apiaries all around me. Outdoor feeding is out of the question, as strange bees would get more than my own. Of course, feeding in the hive can be done, and has to be done, but it is a nuisance, and requires too much work and precious time. Would not a great deal of this trouble and annoyance be avoided by using larger hives where a greater amount of stores could be kept near the brood handy for the bees to draw on than is practicable in an ordinary eight-frame hive? For this reason a ten-frame hive would probably be better; yet a ten-frame hive with a new swarm, on one-inch starters, would have to be too much contracted for best results in producing comb honey, as sections over dummies are not well filled. For this and other reasons I prefer an eight-frame hive for comb honey. By keeping plenty of filled combs on hand, colonies short of stores could be helped out without having to resort to the sticky job of feeding syrup every time. But if I don't see the whole thing wrong, please tell me; if I do, work could be saved and many other advantages gained by the following plan, which I have tried on only a limited scale, but with apparent success.

Furnish each eight-frame brood-chamber with one section of the Heddon hive (or some shallow extracting-super) to go on top. Many good queens in spring fill more than eight frames; but such a half-depth story will give almost any queen enough additional room and will keep the hive sufficiently from being crowded and the bees from swarming till the main flow opens; and I think it is preferable to adding a full-sized story, as the bees build up faster in spring when they have not too much room at a time. Of course, there will be some colonies that do not need more than eight frames till the flow opens; but let even those work in this upper section a while before a super is given. It will give them the "upstairs fever," and when the super is put on they will enter it more readily, especially if they are Italians.

Now, when the flow is well on, these upper sections will contain quite a little honey and some brood. Now shake out the bees and pile these sections six to ten high on weak colonies which will soon be strengthened by brood hatching in these sections. If ample ventilation is given, these piles ought

not to swarm, but hold big colonies which will fill them. The other hives are now in fine condition for super work. There will not be that rim of honey between the top-bars of the frames and the brood. That rim of honey was in the upper section, which is off; and if the bees want some honey above the brood they have to put it in the supers, where we want the light honey. Thus the work in the sections will be taken up faster; and should a drouth overtake the bees during the summer, and the honey in the eight-frame hives become exhausted, as was the case here last summer, those half-depth stories can be gotten and put on again with the honey they contain, and the bees will not be obliged to empty the supers and stain the sections. If there is a fall flow, get one of these upper half-stories filled for each hive besides the honey the brood-chamber contains; for, better give the bees too much than too little. If, next spring, it is not all needed it will do no harm. It might be needed even during the summer; and I think it is an advantage, especially if bees are wintered outside, to have this horizontal passage through the brood-nest. Thus I can keep my eight-frame Langstroth brood-nest during the summer. I don't want any thing smaller to have new swarms in, and have a divided chamber to winter in.

Many a more experienced brother might smile at some of my notions; but when you get your foot in it as I did this year—foul brood, starvation, absconding, and a few more doubtfully pleasant things—well, it sets you at planning; and as we are sometimes liable to improve from hay to straw when we adopt something new, I take the liberty of asking your kind advice in the matter I have mentioned.

New Memphis, Ill., Oct. 18.

[Your plan is perfectly feasible; in fact, if you will turn to some of our back volumes you will find where, some four or five years ago, I advocated something very similar to this. My plan was not so much to keep down swarming as to get sulky colonies to work in the supers. I advocated giving such a super of shallow extracting-combs; then, when the bees got nicely started in them to work, taking it away and giving them a super of sections containing full sheets. In almost every case the bees would go into such supers with a rush. The extracting-combs partly filled were put on to other hives as coaxers to get the bees to go above. When they got nicely to work, the same coaxer was put on to another hive for the same purpose. When the combs were capped over they were set aside to be extracted, and other combs used to take their place.

Several modifications of this plan have been proposed, and the one you describe is one of them. If the supers are taken off soon enough there will be but very little brood reared in them. I found that an ordinary eight-frame brood-nest would give a queen all the room she required, providing

there was room above in which to store the surplus honey that was brought in, giving her practically all the space below; and I would, therefore, suggest that you proceed with the view of getting only honey in the extracting-combs, endeavoring to keep the queen in the lower hive. In this way you keep down increase, and at the same time get both comb and extracted honey.—ED.]

CANDIED HONEY.

Cutting Up Large Chunks of Honey into Bricks
Not a Success; a Fancy Article Not
Wanted.

BY E. F. ATWATER.

When I read of your success with brick honey last spring I decided to experiment on a few cans of granulated alfalfa honey, which I had carried over to supply my local trade. I bought some butter-wrappers, and with the help of my father we went to work to reduce those solid blocks of honey to a more desirable shape. One wire, with a strong lever, was too slow and dauby, so we fastened several wires to a strong stick just under the work-bench. The wires were passed up through a crack in the bench. The loose ends of the wires were fastened to a strong 2×4 cross-piece. About twenty inches apart, under the bench, we attached the ends of two strong levers about five feet long, and to these we attached the cross-piece. Next we made a grooved (or, rather, slotted) board on which to place the block of honey. We cut the can from a sixty-pound block of honey, placed the honey on the slotted board, adjusted the wires and slotted spacers and applied the pressure to the levers, but it did not cut.

Next we attached a grain-sack full of stones to each lever, and patiently waited. If we had done no more we might have been waiting yet. The wires cut a little way into the upper corners of the honey. Finally we added our own weight to the levers, and the wires that did not break at last went through the honey. But such a sticky, messy job! First, taking off the can mashes some honey; then the wires mash some, not leaving a clean-cut surface as does the Aikin bag when removed from our honey; then the paddle to separate the cakes does more damage, and then the wrapping.

If you have alfalfa honey that is so easily cut with that \$50 machine it must have qualities different from ours. I'd rather pour the honey into the 20-oz. cartons and let it harden there. Wouldn't that be the easier and better way, for the producer at least?

But our home market will not pay a fancy price for a fancy article of honey—not one in one thousand. Aikin bags, tin cans, etc., sell best here. I still have a few bottles left, and have to sell fancy bottled honey as cheap as in bags or cans, and that means a loss.

As to the filthy method of setting up a block of honey in a grocer's window, and cutting off chunks with a wire—think of the unwholesome dust (tobacco, consumption, etc.) it must gather; nor will our merchants go to any such trouble. Almost every thing eatable is in cans or cartons or glass, and the trade in bulk goods in open barrels or boxes is rightly becoming a thing of the past.

Meridian, Idaho.

[It is barely possible that your Idaho alfalfa is not adapted to cutting up into bricks, but I hardly think so. We have cut up Idaho, Colorado, Arizona, and Nevada alfalfa with equal facility. Of course, it is well to bear in mind that some alfalfa candied honey is too soft and some too hard. It should be as hard and firm as cold butter. When of the right consistency honey will cut up into nice bricks, which, when wrapped in paraffine paper, look decidedly appetizing and attractive.

Pardon me, friend Atwater; but from a reading of your article I do not think you followed directions. In the first place, you can not use any thing but the *very best piano wire* of 20 gauge. If the wire is much larger than this it will mash the honey; if smaller it will break.

In the second place, a home-made extemporized arrangement, such as you describe, would hardly give you opportunity for a fair test. While you can cut up a can of alfalfa honey with a single wire by hand, yet the results are more satisfactory when we use a regular butter-cutter that is made especially for the dairy trade. These are made of heavy cast iron, with all the moving parts very carefully machined. The wires can be stretched to the right tautness by means of adjustable screws, and right here is a very important point. I feel satisfied that, if you will try it again, using a regular dairy butter-cutter, you will succeed. But you must go at it, not with the idea that you are going to fail, but that you will have success. If you do not care to go to the expense of buying such a machine outright, rent one and we will pay any reasonable rental price providing you will send us a report of the experiment.

The Aikin honey-bags are all right, and for a certain class of trade they are the thing; but for the fancy trade, honey put up in brick form in gilded cartons is "the thing" also. Our bricks sell in the cities at 30 cts. apiece, and there is good money in them.—ED.]

CAN ANY WAX-PRESS GET ALL THE WAX OUT OF SLUMGUM?

BY ARTHUR C. MILLER.

In the advertisements of the Root Company's wax-press it is said that it secures all the wax. May I be permitted to express my dissent from that claim? No compression will force from a mass of such material as that of old combs all the fluids contained

therein, and the pressure possible to apply in a wax-press is comparatively slight. The very fact that a stirring of the mass of hot combs after they have been once pressed yields more wax on again pressing proves that pressing does not squeeze out all the wax. The larger the press and the greater the mass of material in it, the greater the amount of wax retained in the slumgum. The per cent of retained wax under the most careful pressing and persistent "clawing" over is large, and wax is too valuable an article to be wasted. In my own case I have always sold all I could produce for 50 cents a pound; and from personal investigation I am satisfied that in all cities and most large towns a good market at that price can be found. It is the regular retail price for the "pure" wax of commerce, and many a manufacturer will gladly pay more than 50 cents if he is sure of getting an absolutely pure article. The various substitutes and adulterants will not do the work of the pure article, and several lines of trade find it absolutely necessary to have pure beeswax. Beeswax is used by jewelry manufacturers, saddlers, trunk and bag makers, tailors, and in many other trades. It is really surprising how many different industries use it and how much they use of it.

It may be impolitic to publish this, for it doubtless will lessen the available domestic supply for the foundation-makers. With a possible increase of 60 to 100 per cent in the revenue from wax it is quite worth while for bee-keepers to exert themselves to produce all possible; and it is further worth their while to use the least wasteful and least laborious method for its extraction.

You may recall, Mr. Editor, that when you were in Boston last we discussed wax-extractors; and that I suggested some changes which appeared to you rather radical, but still worth considering. Since then your company has developed the press, while I have worked along other lines. I have proved the inefficiency and wastefulness of a press, and have discovered that the solution of the problem lies in some of the principles I mentioned to you before.

But be the method of extraction what it may, let us urge the more profitable marketing of what we do produce.

Providence, R. I., Oct. 14.

[We have a method which we believe to be quite infallible for detecting the presence of wax that may be left in slumgum. Although we may be mistaken, we believe that, when the directions are carefully followed, all the wax available by any process can be secured by the press. Wax, if present in slumgum, can be detected in the following very simple manner: After the refuse has been treated, and is supposed to be clean, take a small handful of it and squeeze it while hot as it can be borne. If there is the least particle of wax left in the portion so pressed, it will show in the fine grooving of the skin of the palm and between the fingers.—ED.]

NOISE AND OTHER DISTURBANCES.

The Studying of Bees and Other Insects for the Mere Love of Them.

BY EDWARD F. BIGELOW.

Mr. Root.—Your Dr. C. C. Miller blew a "Straw" in just a little the wrong breeze when he states that I made "a strong plea for tanging," and shows that he is looking at the matter from a little different point of view than what I had in mind when he inquires "whether he really thinks tanging advisable."

It seems to me that the utilitarian phases—the what to do and how to do it—of the honey-bees have had and are still having full justice done to them. From the practical standpoint of modern bee-keeping I neither advise nor do not advise calling in all the neighbors and enlisting their muscles in denting a fair share of the tin pans in the house. The *methods* of artificial or of natural swarming are another matter.

I am inquiring into the natural history—the *mental make-up* of the honey-bee. What I want to know is what basis in fact is there for the ludicrous antics and pandemonium of our fathers and grandfathers—and their entire families—at the time of a "runaway" swarm. The question as I view it is, whether that custom was founded on the nature of the honey-bee or on some unknown and forgotten edict originally given to proclaim ownership of the swarm. The funny papers, the newspapers, and certain writers in books practically claim that this ancient custom made fools of our ancestors, and proclaims as such any family who continues the custom at the present time. I claim that the custom arose and was continued in actual relation to the honey-bee. That is all. Please strip your mind for a minute of the utilitarian phases and consider this matter of pure science, if I may so call it. Since the article was published, a bee-keeper of long experience personally laughed at my idea of "advocating" this ancient and ridiculous custom. I am not advocating any method. I am trying to know the honey-bee as a "Nature Study" topic; so I do put in a "strong plea," not as to whether you shall leave the mirror on the wall, the pans in the pantry, nor the gun in the corner, but for more in GLEANINGS than how to do it or how not to do it, various details of honey-extractors, shipping-cases, and prices of honey. Let's know more of the honey-bee. Let's put *interest* into the subject. Nowadays we hear and read a great deal about teaching elementary agriculture, not only to raise better crops but to keep better the boys and girls on the farm. Beyond the drudgery and the utilitarian phases, show the interest. Money isn't every thing. I want our bee-keepers to use heads and hearts as well as hands.

So far as I have seen, my article was the only one that has been published denying that bee-keepers who made pandemonium at

time of escaping swarms were fools. The funny papers, etc., have had full unchallenged sway long enough.

An extended article in a recent number of *The Outlook* practically proclaims that bees are fools, and not a word of protest from those who know all about bees, and have admired and loved them for decades! I have been watching anxiously for some of our veteran bee-keepers to reply to that article. For several years I have been a subscriber and reader of various periodicals in bee culture, and I must allege that very little do I find on the bees. Most of it is on ways and means of making money by bees.

Are you really a *bee* lover? Seriously let me ask you that question—not you who have just become infatuated with the subject, but you who have kept bees for years.

"Absurd," you say; "of course I love bees—nothing I enjoy better."

Well, glad you do—shake, brother; but before we part let me give you one little test. You needn't answer me. Answer it in your own mind.

"How many colonies of bees would you keep if they produced no honey, no wax, nothing salable or eatable?"

And yet I have known many people who have kept earthworms for many a year, and have studied and talked enthusiastically of their wonderful habits. Seldom, if ever, would they tell how to keep them, or, at least, they didn't talk extendedly and eternally of that. I know one man who studied bumble-bees for many years, and he wasn't in search of honey either. The same statements might be made of enthusiastic lovers of dragonflies, butterflies, grasshoppers, potato-bugs, birds, plants, etc. But where are those who study and love honey-bees for themselves? I do not doubt that there are plenty of them. What I put in a plea for is that they show up more in GLEANINGS and in other similar periodicals that come to my desk.

Regarding the noise *after* clustering, I had known it as a last resort when the bees had refused to go in or stay in the hive provided. Bees usually first cluster not far from the mother-hive, anyway, before taking to the longer flight to the woods. My experience, mostly in boyhood days, was that the noise was made when the bees were bidding "good by" to the keeper's apiary, not when they were coming out of the hive, clustering all right near it.

Yours in the love and study of honey-bees, as well as of all other objects in nature; for "every thing is fish that comes to the net of a naturalist."

Stamford, Conn.

[I had intended to reply to that article in the *Outlook*, and, indeed, did prepare such a one, but finally withheld it for the reason that this was one of the harmless lies, although disgusting to the practical bee-keeper, who knows better.

Regarding the history of the tanging subject, the following article will throw much light on the matter.—ED.]

NOISE AND SWARMING BEES.

Quotations Showing that the Beating of Tin Pans, etc., at the Issue of a Swarm is an Extremely Old Custom.

BY COL. H. J. O. WALKER.

With reference to Professor Bigelow's article, p. 957, there is no doubt that attempting to arrest the flight of swarms by making various noises was a settled practice with the old Greek and Roman bee-keepers. It may well be that to the far-reaching invasions of Roman armies and the military colonies subsequently established should be attributed its universal adoption by the European nations affected, such as Germany, Spain, and France, as also its introduction into Great Britain, and so onward into North America. Another, and perhaps a more powerful reason for inferring a survival of the system and ideas of the ancient Romans on bees and bee-keeping is the fact that, nearly up to the end of the sixteenth century, the works of their classic agricultural writers were the sole existing authorities on the subject. For more than a hundred years after the first printing-press was set up by Caxton at Westminster no original work on bee-keeping was published in England. This would not, however, affect the country folk, whose guide, until comparatively recent times, must have been mainly tradition.

The quotations that follow, while helping to support my theory, will show that the effect of "tanging" on the nerves of the hive-bee, and its advantage, if any, to bee-keepers, have always been held doubtful. Virgil and Ovid held it to be an attraction, and from the latter poet we gather that the mythological origin of the domestication of bees was the capture of a swarm by Bacchus and his followers when traveling among the hills of Rhodope. Attracted by the clanging cymbals it was hived successfully in a hollow tree. Again, in the collection of agricultural lore entitled *Geoponica*, which may be taken as representing the earliest and best methods of Grecian bee-keeping, it is stated that "proper harmony is grateful to this animal." On the other hand, the great authorities Varro and Paladius consider the effect of the bee-keeper's noise intimidating. Aristotle, greatest of all, proclaims himself uncertain on this point, and indeed doubts whether bees have any real sense of hearing.

Nickel Jacob, the best German bee-master of his time, wrote in 1563, though I quote from a later edition: "Bee-keepers make a noise with bells and basins, throw earth, and sprinkle water. I do nothing." In the anonymous "*Traite des Mouches a Miel*," Paris, 1690, we find: "Everybody knows that the sound of kettles, basins, pans, and drums arrests the flight of bees . . . giving the idea of a tempest." Don Diego de Torres, in his "*Arte nuevo de aumentar colmenas*," Madrid, 1747, mentions the common use for this purpose of "frying-pans, timbrels, flutes, or any other kind of noise or pastoral music."

Turning to our own old masters, and passing over Thomas Hill, 1568, who relied solely on the classic authors, we have Edmund Southerne, London, 1593, stoutly maintaining that "to keepe a stirre and lay on with a Bason, Kettle, or Frying-pan is to take great paines and have little thankses." The editor of GLEANINGS should refer once more to his valuable 1609 edition of Butler's Treatise, to find (No. 30, Chap. V.) that "it is a common fashion to make a harsh noise with a pan, kettle, bason, or other like thing, thereby to stay them from flying away." In the next edition of his Treatise, London, 1623, Butler states that the original cause of this custom was to establish "a just and open claime laid unto the Swarme, that otherwise some false neighbour might challenge for his." Purchas in "A Theatre of Politicall Flying-Insects," London, 1657, adopts the same view, and with but few exceptions all subsequent writers of note agree.

Ringings and tanging have not yet quite died out in our rural districts. I myself, in the enthusiasm which I am glad to say the hum of a rising swarm can still kindle within me, have "played them a fit of mirth" (Butler again) with poker and shovel. I have also tried to head off the bees by a shot from a small fowling-piece, but I can only recommend this weapon as useful in bringing down a clustered swarm, branch and all, from a tree. Under ordinary circumstances I fall in with the editor and use a garden syringe.

King Alfred's law of swarming is, I fear, but a pleasant flight of fancy.

Leeford, Budleigh-Salterton, England.

THE ALEXANDER METHOD OF INCREASE.

Why F. L. Day Failed.

BY E. W. ALEXANDER.

In justice to myself and the method of making increase that I recommended in the April 15th issue of GLEANINGS, I wish to say a few words to friend F. L. Day, as he, in the Oct. 1st issue, condemns what is now called the Alexander method of increase. In that article of April 15th I said, "Now leave them about ten or eleven days in this shape, during which time the queen will get a fine lot of brood started in the lower hive, and every egg and particle of larva that was in the old hive on top will have matured so it will be capped over and saved; then separate them, putting the old hive on a new stand."

Now, instead of leaving them only ten or eleven days, as I advised, friend Day leaves them from the 22d of April until June 1st — some 39 days, which changes the nature of the whole operation, and shows very decidedly that the excluders he uses are worthless as queen-excluders, for we all know that the queens he speaks of as being about ready to hatch in the upper hive on the day he separated them must have been newly laid eggs only 15½ days before, which also shows that

the queens he thought were shut below in the under hive were having full swing in each; therefore the only change the four colonies had by his manipulation was to give them an additional set of combs, whereby, in the course of a month, they had a large amount of maturing brood which was the cause of their swarming. I can hardly see how he could have fixed them in any better way to swarm naturally and continually than he did.

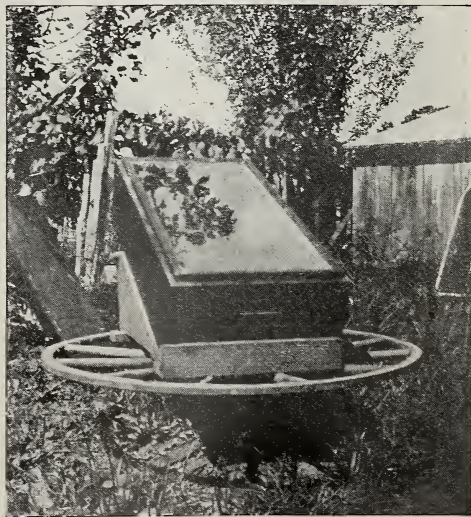
Now a few words to all who try new methods which the writers for our bee journals recommend. Either carry out those methods to the letter or let them alone; don't mix up a lot of your own ideas with those of others, and then condemn the writer for not giving a practicable method, as friend Day has just done in this case. I find this is the worst feature connected with writing for our bee journals — so many bee-keepers with limited experience will undertake to put in practice some new method, and frequently omit some of the most essential parts, thereby making a perfect failure of what otherwise would have been a perfect success.

In conclusion I will say that, during the last three months, I have received dozens of very complimentary letters from parties who have adopted this method of making their increase, at the same time securing a large amount of surplus honey.

Delanson, N. Y.

HOW A SOLAR WAX-EXTRACTOR IS KEPT TURNED TOWARD THE SUN.

I inclose a photo of my Doolittle solar wax-extractor. I took an old buggy-wheel and put it on a post set in the ground, and arranged the extractor on it, so that it can



be turned with the sun. It also keeps the box off the ground so that it will last longer.

JAS. T. SHACKELFORD.

Napton, Mo., Aug. 26.

COMB AND EXTRACTED HONEY.

Producing Both in the Same Super.

BY G. C. GREINER.

The principle of producing comb and extracted honey in the same super at the same time has been in my mind for several years; and when Mr. Townsend's article on this subject appeared in GLEANINGS, page 594, I had all preparations made to test the matter this past season. The photographs were taken at about the same time, either just before or soon after said article appeared. It was just before the white-clover season opened, which can be seen by the fact that only a few supers had been placed on the

brood-chamber fashion—one section-holder on each side, and five extracting-combs to fill out the space between. This, of course, is not the proper way if we expect to harvest any comb honey; but for experiment's sake I ran a couple of hives in this way, and was not disappointed when I found at the close of the honey season, although honey had been stored quite lively in the combs, that not a sign of any work had been done in the sections. The starters had not even been touched.

With the other arrangement, shown on the hive at the right, I was more successful, but not to the extent a person would expect after reading Mr. T.'s article. It is my impression that the glowing terms with which he portrays his achievements are not



FIG. 1.—COMB AND EXTRACTED HONEY IN THE SAME SUPER.

hives, and these few were for observation. I conceived the idea independently of any thing I ever read or heard of on the subject, so that I may justly claim to be, if not the originator, at least one of the originators of that plan.

The section-holders, of which a number are shown in Fig. 2, are about the same as those we used years ago for side-storing in the brood-chamber. They are the usual wide frames the same size as the brood-frames, holding two tiers of four $4\frac{1}{2} \times 5$ sections each, with two corresponding separators nailed permanently to one side. The hive on the left, Fig. 1, is arranged in this,

all the representations of actual experience, but a well-seasoned mixture of facts and theory, unless his bees in Michigan act very differently from ours here in Western New York.

Instead of sections being placed at the sides, a double tier of broad frames, containing 16 sections in all, takes the center, and two extracting-combs on each side fill out the super. The illustration gives it in this way; but, in reality, when placed on the colony the width of the super is reduced by a $\frac{3}{4}$ -inch division-board, otherwise the combination would give the combs too much space from center to center, and an addi-

tional comb on one side would crowd them too much.

This double tier (our illustration shows three of them at the right), consists of two single frames clamped together with open sides toward one another; but as I am a little cranky on the separator question, believing that desirable sections in regard to shape and weight can be produced between separators only, loose separators are placed between. The frame on the left has the lower one set in its place. Both are held in position vertically by little blocks nailed to the end-bar, and the little galvanized iron hooks, with a couple of $\frac{3}{8}$ -inch wire nails for hinge and catch, answer the double purpose of keeping the separators from moving end-wise and holding the frames together.

The starters I used in this case are about 2 in. wide and the full width of the sections

out and enlarged starters with more or less honey that will make extra-fine bait-combs another year.

The secret of making bees work in sections I have not discovered yet. As long as I kept these colonies supplied with empty combs by exchanging those where capping had started with empty ones, they would do very little in the sections; and if I tried to crowd them into the sections for want of empty combs they would make preparations for swarming and do so.

But I am by no means discouraged. I shall continue my investigations with more thoroughness, if possible, next year. We had a very moderate honey-flow this past season. At no time did honey come in fast enough to induce extensive comb-building, although quite a little of it was stored all along in empty combs. During a more



FIG. 2.—COMB AND EXTRACTED HONEY IN THE SAME SUPER.

in length. This is a larger piece than I generally use, for I believe, or, rather, I am convinced, that the less foundation the better the honey; but I meant to be liberal with my bees and give them all the chance I could conscientiously.

After making these preparations and spending my time watching these colonies all through the season, I can not say that I am very much elated over the results of my investigations. I have taken a very few finished sections from some of the hives, quite a quantity of unfinished honey that would pass in Texas or Kansas, if cut out, as chunk honey, and a fair amount of drawn-

bountiful honey-flow bees would undoubtedly act very differently.

There is another point which I intend to investigate quite closely. As the illustration plainly shows, I use solid separators; and the only connection between the different rows of sections, as well as between the sections and extracting-combs, are the bee-ways above and below each row of sections. This secludedness may not suit the bees as well as the open space between the combs, and may be the reason for their not taking to the sections more readily. I expect to rig up a fair portion of my section-holders with open separators, either perforated or

fence, and perhaps use some without any, and, contrary to my convictions, with full sheets of foundation.

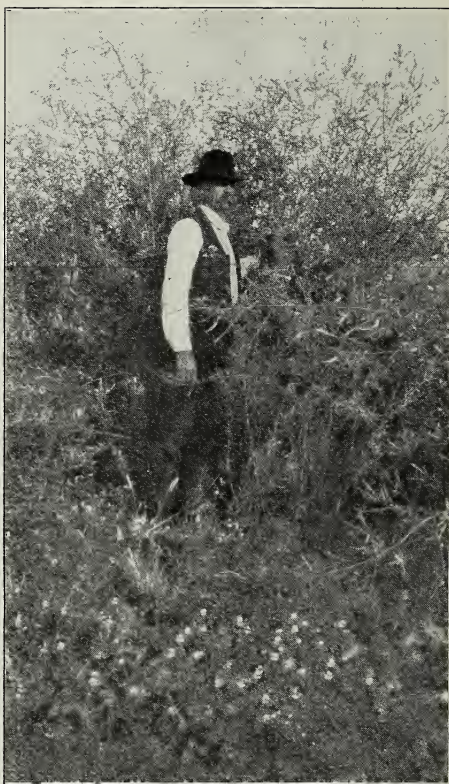
UNDER WHAT CONDITIONS ONE CAN AFFORD TO MAKE HIS OWN HIVES.

Before closing this article I would ask permission to digress a little and speak of two features which have been the subject of discussion at different times by two prominent members of the bee-keeping fraternity. I invite the reader, Mr. Hutchinson in particular, to notice the mechanical points of the apiarian outfit represented by our illustrations. Every thing seen in the line of hives and appliances is home-made. Mr. H.'s argument in favor of bee-keepers making their own hives is all right in some cases, but not in general. We have power-saws and all necessary attachments to cut up hive-material in workmanlike manner; otherwise it would be cheaper and more convenient for us, and for all bee-keepers who have not these facilities at their command, to call on some of our leading manufacturing establishments for their supplies.

Then, again, the paint question is well illustrated. Some of the hives have been in use nearly 30 years, and from outward appearance would pass for recently made goods. With the same care they bid fair to last for several generations yet to come. Their state of preservation is directly due to an occasional coat of paint. Mr. Doolittle's



BEE-TREE HUNTING.



SWEET CLOVER AS A HONEY PLANT.

anti-paint theory may save a little expense at first, but in the long run it is, in my opinion, misplaced economy. It is conceded by all careful business men that the judicious outlay of paint, especially if applied as a protection against atmospheric influences, is a paying investment.
La Salle, N. Y.

[As you suggest in your article, it would seem more probable that you would have secured better results if you had had a more open separator. Bees do not like a big double-tier wide frame, or, if you please, a Langstroth frame all cut up with little divisions. This fact was clearly demonstrated to us last summer with our small baby nucleus frames in large Langstroth frames. Now, if you make eight of them two inches wide, and put solid separators between each set of frames, you are introducing conditions not altogether liked by the bees. It is true that, years ago, we produced comb honey with just such appliances; but single-tier supers, where the heat can be confined, and supers are more open, give better results as a rule.

In regard to the subject of hive-making, the correspondence in our office shows that you are right. One can not afford to make

his own hives *unless* he has foot-power buzz-saws, with a full equipment of gauges, and, I might add, some mechanical skill besides. —Ed.]

BEE-TREE HUNTING.

How to Make a Bee-hunting Box.

The picture I am sending you speaks for itself. This is an apple-tree out in an old pasture lot.

The way we hunt bees here, we have a box in two parts, the bottom having some comb with honey diluted with water, or we use a little oil of anise, as this draws the bees, and they come back better. The top part of the box rests over the bottom. We catch a bee in the top part of the box, put it on the box, draw a slide, and let the bee down on the honey; tilt the lid back a little; set them up on a stick about eight feet long or high, and wait for Mrs. Bee to come out with her load. If the tree is near enough to pay to look for she will be back in from nine to fifteen minutes. I never had one come back in less than six minutes, and they were only about fifty rods away. After several get to working on a line, and are coming back in good time, I usually have another box. I catch all I can that are in the box at work; set box No. 2 up on the stick, and move several rods to the right or left, as may be most convenient, and set them up again. In this way you get a cross-line, and we can generally find them in half a day, and sometimes less. Hunting bees isn't a profitable business, but there is real sport in it and I enjoy it. FRANK P. STOWE.

Seymour, Conn., Aug. 9.

[The bee-hunting box you describe is quite similar in principle to the one shown in our A B C of Bee Culture. It is very satisfactory for the purpose. —Ed.]

SWEET CLOVER GROWING TO A GREAT HEIGHT.

Mr. Root:—Inclosed you will find a picture of a bunch of sweet clover. You can see it is very tall. I am five feet ten inches, and the picture shows how much taller the clover is. It almost reaches the electric wires, as you see, which are on the usual length of poles. This clover is just roaring with bees.

One peculiar thing about my keeping bees is this: To the best of my knowledge I have never had a swarm get up and leave. This, certainly, is through no good management of mine, and I do not claim to have any control over the bees in this way.

JOSEPH EGGE.

Willamette, Ore., July 20, 1905.

[This is certainly a large growth of sweet clover. I have seen it on the top of some yellow clay embankments just as high. It thrives best where nothing else grows, and hence can never be a noxious weed.

If any one can show a taller specimen we

should be glad to have him send a picture of it. —Ed.]



FIXING HIVES FOR CELLAR WINTERING.

"Good evening, Mr. Doolittle. Evenings are getting longer now."

"Yes, Mr. Smith; these longer evenings remind me that winter will soon be upon us. Take it as a whole we have had a pleasant summer and fall, and I think that we should have had a good honey year had it not happened that our cool rainy spells came just at the time the honey-producing bloom was at its height."

"I quite agree. Those rainy spells came right in the center of the clover bloom, in the center of the basswood bloom, and in the center of the buckwheat bloom. It rarely happens thus with all of the bloom which is likely to give us a surplus of honey."

"That is right. But what was especially on your mind this evening? You rarely come over unless you have some particular topic you wish to talk upon."

"These long evenings and cool weather set me to thinking about putting the bees in the cellar. I have not been satisfied with the way my bees winter."

"In what respect?"

"There are too many bees dead on the bottom-boards each spring, these dead bees often going up between the ranges of comb to such an extent that some of the center combs are moldy and nearly rotten at the bottom. It doesn't seem to me that such a condition is best for the bees, to say nothing about the combs, so I came over this evening to see if you could not help me out in the matter."

"You do not leave the hives down on the bottom-boards during the winter as they were in summer, do you?"

"That is the way I have always done. Please tell me how you fix the hives for cellar wintering, as to roof and bottoms."

"The tops are left just as they were during the summer except that the shade-board is left on the summer-stand."

"What? Do you take the cap or hood in the cellar?"

"Where hives have a cap or hood this is left on the stand with the shade-boards, but of late years I have not used hives having these."

"And the loose bottom-boards — do you take these in the cellar?"

"No. Do your hives have a cap and loose bottom-boards?"

"Part do. But this year I have a part of

my bees in hives without caps, and with the Dr. Miller bottom-boards. I wish to know about each."

"With those hives having a cap and loose bottom-boards the bees will winter best with both left on the summer stands. Then you will put on the cellar bottom a sort of stand made by making a frame out of 2x8 stuff, set the eight-inch way up, so as to raise the first hives set in, up eight inches from the cellar bottom."

"Do you make a frame for each hive, or a continuous frame running the length of the cellar?"

"With this mode of wintering it makes very little difference; for, as you will see when I explain a little further, the hives are all connected together."

"Excuse me, but I wished to know of all these little things."

"Having the 2x8 frame down ready for the bees, the first hives brought in and placed on this are spaced nearly their width apart, so that, when the next tier of hives are brought in they can be set so their lower edges rest on the upper edges of the two other hives below, this leaving the bottom all open for ventilation, and so that the dead bees, which have troubled you, will fall out of the hive and off out of the way."

"Oh, my! why have I not thought of that before? No more moldy stinking combs. Surely I will adopt that. But go on."

"There is little more to be said in the matter, only that the next tier or row rests on the edges of those below, and so on till the top of the cellar is reached."

"And this gives a space eight inches deep below the first hives on the frame, and nearly the size of a hive of space under all the rest, all out to the open."

"Yes, that is right; and all the objection I find with this way of wintering is that it allows the dirt and dead bees from the upper hives to fall on the tops of those below, thus making them foul and look bad ever afterward. But I overcome this objection by spreading newspapers on the tops of all the hives, except the upper tier. These papers keep the tops clean, help to take up the moisture from the cellar, and enable me to gather up a large share of the dead bees in the spring, when gathering up the papers."

"That is quite an idea. But now about those having the Miller bottom-boards. You know that these boards have a bee-space on the 'summer' side, and a two-inch space on the 'winter' side."

"Yes, I know all about the Dr. Miller bottom-boards, for I have adopted them entirely, and consider them one of the *bright* inventions of the age."

"Tell me about fixing these."

"Having such bottom-boards, on some warm day when the bees are flying, a week or two before you expect to put them into winter quarters reverse all the bottom-boards in the apiary, putting a piece of thin stuff, having an entrance $\frac{3}{4}$ x5 inches in it, to fill the open space at the front of the

hive till they are set in the cellar, when this little thin board is to be taken off. This keeps them snug and warm, and prevents robbing as well."

"How is this kept in place?"

"A small nail driven partly in will hold it, and the little board will pull the nail out when the board is removed in setting in the cellar."

"But what holds the bottom-board to the hive while setting in the cellar?"

"What are called 'tobacco staples' are used. These are like the double-pointed carpet-tacks, only much larger. I use the $1\frac{1}{2}$ -inch. One of the points is driven into the upper edge of the bottom-board, and the other into the lower edge of the hive, one on either side, and this secures the bottom-board to the hive so that we have no trouble till they are removed to reverse the board again in the spring."

"Well, that is easy; and this two-inch space allows good ventilation, a place for the dead bees to fall, and the bottom-board keeps the tops of all hives on which they are piled clean. Hurrah!"

"That is right; and of all the methods of piling and fixing in the cellar, I like this the best."

"But how about the mice and rats? It would seem that, with either of these plans of wintering, they could go where they please under these hives."

"With the first plan they can; and the only way is to keep them trapped off where that is used."

"But how is it helped with the Miller board?"

"Very easy; and this renders the Miller board doubly valuable where bees are wintered in a house cellar, at the out-apiary, as I always do mine, instead of carting them home."

"Tell me about it."

"Cut a saw-kerf in each of the two inner sides of the winter side of the bottom-board, so this kerf will come at the front edge of the hive when the hive is placed ready for winter, and into this kerf slip the right-sized piece of wire cloth, having a $\frac{3}{8}$ -inch mesh, and your hive is mouse and rat proof, no matter how many your friend of the out-apiary cellar may care to tolerate among his vegetables; and this wire-cloth gives room for ventilation and dead bees just the same as if it were not there."

"Another good thing. But the clock is striking ten, and I must be going. How quick the evening has gone!"

GOOD TIME IN INTRODUCING.

I removed a very prolific black queen; and while the hive was open I placed an Italian queen in the cage between the frames. Just 72 hours from the first examination I found her liberated and at home. Who can beat it for time? The Italian was a laying queen.

M. L. BREWER.

Philo, Ill.



CAN WOOD BE SPLIT IN THE SAME CELLAR
WITH THE BEES?

1. I keep my bees in the cellar. Do you think it will do harm to them if I split wood in the cellar, 15 or 20 feet from the hives?

2. Give me your idea about wintering my bees, and what I ought to do with them in order to keep them good and strong.

Appleton, Wis. GEO. BREITRICK.

[1. I do not think that the splitting of wood occasionally in your cellar would have any serious effect on the bees, especially if you did it at regular intervals and every day. The bees would make a buzz or roar, possibly, at the first splitting; but they would very soon get so they would pay no attention to it.

2. Your cellar ought to be dry, and capable of maintaining a temperature not higher than 50 nor lower than 40 degrees Fahrenheit. If the bees get uneasy, ventilate the outer cellar or the other end, then let the air into the inner cellar. If there be no outer cellar, let in fresh air direct from outdoors. This can be done best at night, closing the windows or window before morning. A cellar where bees are kept should be pitch dark. If the wood is in one end of the cellar, and the bees in the other end, you had better partition off with boarding, carpeting, or any kind of screen that will shut off the light. If for some reason you can not put up a partition, darken all the windows in the cellar, then when you go down to split wood take along a lamp or open up a window for a few minutes while you split wood. You will find fuller particulars on this subject by referring to the subject of Cellar Wintering under the head of Wintering, in the back of the A B C book you have.—ED.]

MOISTURE ONE OF THE CAUSES OF WINTER
TROUBLES; THE FOLLY OF SCANT
FEEDING.

In my opinion it is not the cold blizzards or the long cold spells, but the moisture dampening the colonies that caused the trouble in the winter. As my experience goes, I find that a colony of bees can stand almost any degree of heat or cold if they are kept dry. They must also have plenty of feed, and the quicker the bees get the feed inside of the hive, the better it is for the apiary and all concerned. When I have to feed I want the bees to take the feed just as fast as they can, or I do not want them to take it at all.

Just once in a while there is a bee-keeper that feeds his bees what he ought. The

great trouble is, most of us do not feed our bees enough to do them any good. I have fed an apiary of 400 swarms 250 gallons before it showed one pound in the hives. Of course, some one will ask, "What did the bees do with that 250 gallons of feed that it did not show up in the hive?" Well, I do not know what they did with it. I leave that for Dr. Miller to answer. But one thing I do know is that, when I feed an apiary of 400 swarms 1000 gallons of feed, it begins to show increase in brood; and when I feed that same apiary 10,000 gallons that apiary is insured for the honey crop if it comes; and if it does not come, my bees are in good shape for winter.

Matanzas, Cuba. C. E. WOODWARD.

[You are just exactly right on this subject of dampness. The sooner bee-keepers get over the idea that an excess of moisture is not harmful when accompanied with cold, the better will be their profits.—ED.]

PACKING DOVETAILED HIVES FOR WINTER.

I find nothing in your journal about the preparation necessary for packing the Dove-tailed hives—I mean for outdoor wintering. I pack in large cases. Do you put a quilt between the super and brood-chamber, leaving the super on? If so, what kind of quilt or cloth do you use? Do you then fill the super, which, of course, is destitute of all frames, with chaff or leaves?

Last winter I removed the supers, putting the covers right down next to the brood-chamber. I lost one colony out of eleven by so doing. Is there not danger of damp?

Corunna, Mich.

E. W. HARDING.

[Particulars for preparing chaff hives for winter are given in our regular catalog. Instead of a cloth on top of the brood-nest, we now recommend a thin board cover, or what we call a "super cover." This consists of two or more boards $\frac{3}{8}$ thick, tongued and grooved together, and held from warping by a tin binding at each end. Over the top of this we put a large cushion, or, better still, a tray nearly as deep as the telescoping cover, and just large enough to slip inside. This tray has for a bottom a piece of burlap loosely nailed on. This makes a complete tray which is then filled with planer-shavings, chaff, or forest-leaves. When so filled it rests on top of the thin super-cover, and the water-table of the hive as well. The chaff-hive cover then sets down over the whole. We formerly used burlap or some other loose material between the brood-nest and the cushion or chaff tray on top; but on the whole we think we get better results with the sealed-board cover.—ED.]

HONEY-DEW UNFIT FOR BEES; A NEW KIND
FROM ACORNS.

You no doubt remember I wrote you in regard to the trouble I was having with honey-dew from the buds. At that time you said honey-dew from the buds is gener-

ally good to winter bees on; but I found it was sure death to every colony that had it. At this date we have another kind of honeydew. There is a little bud forms between the acorn and the shell; and after a time these little buds fill and the honey forms in the little cups or cavities left vacant. The bees work as hard on them in the morning as on basswood. This is something new to me, and I should like to hear from you through your journal.

I have extracted some of the honey, and find it about the same in color as white clover; but it has a sharper taste, not so rank as that from the buds. E. EVELAND.

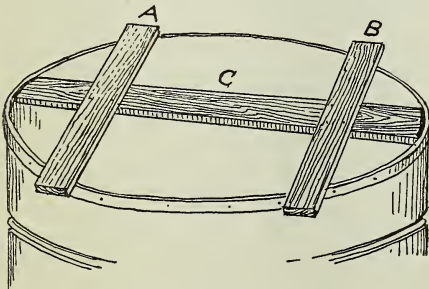
Barneveld, Wis., July 31.

[We have had reports of honeydew from acorns; but, unlike the ordinary honeydew, which is a secretion from bark lice or other insects, this seems to be a juicy exudation from the acorn or bud itself. The quality of this so-called honey is usually very poor. --ED.]

A SUBSTITUTE FOR THE CROSS-ARM OF A DADANT UNCAPPING-CAN.

This is a device to be used on the Dadant uncapping-can. The pieces A and B rest on top of the edges of the can, while C is cut to fit inside, which makes the whole very firm; $4 \times \frac{1}{2}$ lumber is about right. The advantage of this device is, there is no time lost in locating the frame on the nail-point as with the regular one.

Another advantage is in uncapping weak, broken, or other combs that are capped under the top-bar. Such combs are gener-



ally best handled when turned on the top-bar, and uncapped by cutting up toward the bottom-bar. I never knew of any one yet, after getting used to this kind of arrangement, to want to use the original bar again. Casanovia, Cuba. LESLIE BURR.

ICE WATER FOR REMOVING PROPOLIS.

I notice what E. R. Root and Dr. Miller say about greasing the fingers to remove propolis. The quickest thing I have tried to remove propolis is ice water. It hardens the propolis, and it cracks up and comes off without leaving any stain.

Camillus, N. Y. IRVING KINYON.

Ice water would, no doubt, harden the propolis in a way that would facilitate materi-

ally its removal. I never tried it, but I see no reason why it would not work. I very often rub my hands through the grass to remove the greater portion of it, then with a little dry earth or dust rub off a good bit more of the sticky stuff. What remains will not stick to the brood-frames or tools in working over the hives. The principal objection to your remedy is that ice water is not readily available in an ordinary beeyard. --ED.]

HONEY VINEGAR, AND HOW TO MAKE IT.

[It may be well to state, in explanation, that Mr. Toepperwein sent us a sample of honey vinegar that was so fine we asked him to give his method to the readers of GLEANINGS. He replied as follows:]

This vinegar was from a lot of six barrels that I put up about a year ago. I used 3 lbs. of honey, valued at 6 cts. per lb., to make a gallon of vinegar, and there was a shrinkage of 15 per cent. I boiled the water (which was common hydrant water) and then, while stirring, added the honey, and boiled the mixture until it did not foam up any more refuse. The whole mixture was cooked together, then put into a barrel after it was cool, then set out in the sun, with an opening covered by a wire screen.

I kept one barrel, out of which I drew the liquid while it was fermenting, and kept adding it in the other barrels, so that it would constantly foam over and the barrels still be full. After it was through fermenting I drew it through a hose and then strained the vinegar, or, in other words, metholin, through a double cheese-cloth, not drawing quite all from the barrels. This, together with boiling out the impurities, makes it clear and clean. I did not keep a thermometer in the honey vinegar, but simply heated it as hot as fire would make it, and kept skimming it off until it would not foam any more. You will have to judge the length of time yourself to let it boil by the impurities that come out, as it must be boiled until nothing impure comes out.

UDO TOEPPERWEIN.

San Antonio, Texas, Sept. 6.

[You say that you used 3 lbs. of honey to make a gallon of vinegar, and that there was about 15 per cent of shrinkage. According to the method given in the A B C book, the honey may be added until the mixture is of such a density that a fesh egg will just float, leaving a spot above the liquid as big as a ten-cent piece. --ED.]

THE PLAN OF WINTERING A PLURALTY OF QUEENS PRACTICED IN ENGLAND.

I note in your issue of Aug. 15, page 871, a most interesting article upon wintering a plurality of queens. If more bee-keepers would follow friend Reiber's plan I am sure they would find it to their advantage. The extra queens are most useful just at the time when most wanted to take the place of those lost in winter. Many a good stock could be saved by being always prepared with a few extra queens. For four years now I

have worked upon similar lines, making an ordinary ten-frame hive into a three-compartment hive by fitting two tight-fitting division-boards (not wire screens), one entrance being at the front and the other one at each side. Each division takes three of our frames. I have always been very successful with them.

In the autumn a good stock is divided up by placing the two division-boards in position. The brood and bees being also split up, two queens are introduced to the two compartments that are, of course, queenless, when all are fed up so as to be provided with plenty of sealed stores. A good cake of candy is then placed upon the top, and every thing made secure for winter. The one great point in wintering these small colonies is to be certain they have *plenty of stores*.

My bees always winter outside in single-walled hives, but I don't think our winters are so cold as yours are; however, I hope more will try this idea, and so always be prepared with sufficient spare queens to introduce to any hive that may have lost their queen in the winter, and also have one or two for a less fortunate friend. All that is required to be done when the queens are removed in spring is to take out the division-boards, and then you have a fine stock ready for any early honey (hawthorn, sycamore, or fruit, here).

The last season was a very fine one for us English bee-keepers. I hope it has been so for our American friends.

HERBERT POTTS.

Dutton, England, Aug. 29.

[The plan you describe is doubtless for outdoor wintering. It has been tried to some extent with varying success in this country. We expect to test it out on quite an extended scale in our cellar under the machine-shop. Indeed, we are almost compelled to, as we have a large number of choice queens which we desire to keep over till spring. We will, therefore, put these light-nuclei, two or three, as the case may be, in one hive.—ED.]

GROCERS WANT FULL-WEIGHT CASES OF HONEY.

Just a word in regard to the article at the foot of page 1089, Oct. 15. More or less of the time for the last three years I have been on the road selling honey, and I feel that I know what the trade, in this section at least, desire.

First, let me say that by far the greater part of the best grade of our honey runs 24 lbs. to the case of 24 boxes. I maintain, also, that in the best grade each section should be so near like all the others that there would be no choice. It has always been the cry of the bee journals and the jobbers that comb honey should run a pound or two under weight. When I first went out, my heart rather misgave me, knowing that I must sell full-weight cases. What did I find to be the wish of the trade in this matter? Just this. Fully 75 per cent specified full weight; not

over 5 per cent desired cases weighing 23 lbs., and only one merchant to whom I sold honey this year wished a case weighing less than 23 lbs. Any thing less than 22 lbs. must go as second grade, and goes slow at that.

You suggest that the grocer keep the case under the counter, and show only two or three boxes. By so doing you deprive him of his cheapest and best mode of advertising. I know from actual experience with my trade that the merchant who displays artistically a whole case or even two or three cases of honey in his window or on his counter will sell several times as much in proportion to the size of his trade as one who displays less. Why? Simply because the attention of the consumer is called to it more forcibly, and at a time when he is prepared to purchase. It is also true that every one likes to buy an article that he knows is being sold in large quantities. What better recommendation can there be for it? PHILIP E. CRANE.

Middlebury, Vt., Oct. 24.

[It is true that, in some localities, full-weight cases or full-weight sections are called for; but in most of the Western markets, particularly those around Chicago, a section slightly under weight is in demand. You say you maintain that each section shall be so nearly like the others that there will be no choice. That is a good deal the doctrine I have been preaching; for when the sections are carefully graded they are very nearly of equal value, and can, therefore, be sold by the piece. There will be no need of keeping sections of this kind under the counter. The case might be set back a little, so that the grocer can pick up the first one he comes to, which would be the next one in order.—ED.]

WINTERING BEES BY PLACING HIVES BETWEEN BAGS OF STRAW.

I see so much in GLEANINGS about wintering bees that I will tell how I have been fixing them for wintering for the last six years or more. I put five and six on a bench with a jute sack filled with straw between each two shoved up together; then I drive stakes behind and in front a foot from the hives. I then fill the spaces with corn fodder to the top of the hives. I also set fodder up at each end, also putting some over the top; then a board roof with proper slope. I have never lost a colony yet by wintering in that way. This winter I am making a change, and am taking wire netting, such as is used for poultry-fencing. I cut it 3 feet wide, and length to suit, putting a heavy filling of straw between two pieces, then lacing them together with binding twine, and setting them on edge, front and rear of hives, with a bag of straw between the hives and at each end, and will use second-hand steel roofing over the top, with some packing of straw or fodder under the steel. The straw and wire netting will be something like a mattress, and can be taken and stored away in spring for another time, and it will not be so much trouble to clean up as the fodder.

My bees are all in double-walled hives, but not filled with chaff. W. S. WILLIAMS.
Julian, Pa., Oct. 26, 1905.

[Your plan of wintering is all right, but it involves a lot of work. If time is money, a straight out-and-out double-walled chaff hive or winter case would be cheaper. But where one is situated as many are on the farm, when they can not always employ their time profitably, he can put up his bees in the fashion described, very cheaply.—ED.]

TOWNSEND PLAN OF PRODUCING BOTH COMB
AND EXTRACTED HONEY IN ONE SUPER
NOT LIKED; HONEY FROM WHEAT
STUBBLE.

I raise both the extracted and comb honey, and have tried the Townsend plan of producing both in one super, but do not like it as well as my old way. With the Townsend plan there is no way to hold the section together in the center, and the bees put in all the propolis they can, and that makes lots of work to clean them. My other way is as follows. It is not a new plan, but I think it a good one.

I have supers that use the Danzenbaker frames for extracting, and in apple bloom I put on these supers. When they are about full I raise up the extracting-super and put under a super with sections, and I have nice filled ones, and before the end of the honey-flow I put on extracting-supers again. In that way I have no unfinished sections, and I can keep swarming down to almost nothing. I leave on my supers until they are all capped over, so as to have a good grade of honey.

We get most of our honey from white clover, but this year it was a failure—lots of bloom but no honey. We have the willow-herb, which brings lots of fine white honey of good flavor. But the best honey, I think, we get comes from wheat-stubble. Right after the wheat is cut, the stubble fills up with honey. It is as sweet as honey in the stubble, and the bees just pile it in the sections. It is the finest honey I ever had or tasted. This may seem strange, but it is the truth. If it had not been for the wheat stubble our honey crop would have been a failure. There are only two kinds of wheat that produce this kind of honey. They are called Jones' Fife winter wheat and Gold Coin winter wheat. When we cut this wheat the horses' legs and the machinery get so sticky and full of honey that a person almost sticks to it as a fly does to tangle-foot.

Spangle, Wash. ADOLPH SUKSDORF.

REPORT OF AN ASTONISHINGLY GOOD CROP.

From time to time I have read in your paper, but not always with that intense interest that perhaps I should have had, the reports from various bee-keepers about their crops for 1905. I note that some reports are good, some fair, and others very bad—the goodness, badness, or fairness depending on the amount of honey and the price per pound.

I want to submit the report of my crop for 1905, which, so far as I have read, exceeds all others.

I have 29 colonies all in good condition, and nearly all in active work under direct observation. I have spent this season about half my time (in giving the bees the best care); I have harvested 9 sections of honey, a lot of odds and ends showing the work of the bees; 29 “tons” of h—happiness, and 325 stings.

I have learned much that I never knew before about these wonderful little creatures, and I close the season with the apiary stocked full of plans, and myself full of ambition to get more happiness and more stings next year, to say nothing of information. Yet there are old fogies who will tell you it doesn't “pay” to keep bees.

EDWARD F. BIGELOW.

Stamford, Conn., Oct., 1905.

[There are hundreds and hundreds of others who keep bees, not for the honey or money they get of them, but for the tons and tons of happiness that will be theirs. One old bee-keeper, Mr. Frank McNay, who used to manage several outyards in Wisconsin, and who kept bees strictly for the dollars and cents he could get out of them, recently wrote that, since he had got to California, and had gone into the fruit business, he just *had* to get a few bees, as he felt lost without them; and there are hundreds of others who have had the same experience. There is, in fact, no rural industry that brings us closer to nature than the keeping of bees.

I will say to our readers that Professor Bigelow is one of the most enthusiastic bee-keepers I ever met. He does not keep bees for honey that he may get out of them, but that he may delve down into one of the most interesting departments of nature study that the world affords. Our readers will remember him as being the professor who talked to the schoolteachers at the Home of the Honey-bees, which picture was given on page 914, Sept. 1.—ED.]

REPORT OF ALEXANDER PLAN OF CONTROLLING INCREASE.

GLEANINGS has been a great help to me. I started in the bee business last February with ten colonies of bees; and as I have to be away from home a great part of my time I did not know how I should manage during swarming time; so when I saw all the different ways in GLEANINGS for controlling swarming I decided that I would try the E. W. Alexander plan on page 425, and as my bees were getting ready to swarm I began changing them up as Mr. Alexander said, and it worked finely. I did not have a swarm come off at all after eleven days. When I took the top bodies off I always found from three to six ripe queen-cells, so I had no trouble about getting queens, and the colonies with the young queens made the most honey.

Florence, Ala.

CHAS. MOELLER.



CHESTNUT-GROWING — THE IMPROVED VARIETIES, ETC.

I have told you how much we have enjoyed the fruit of our peach orchard this season, with new varieties ripening every day or two in succession, from July until the last of October. Well, you know there is quite a community of good people — yes, *very* good people — who declare that God intended us to live on fruits and nuts. I have tried the fruits pretty thoroughly; in fact, I lived on peaches and milk three times a day just on purpose to see if any bad result would follow, even if I used them to excess, as you might say. I am glad to report that they did not hurt me a bit; in fact, I never felt better in my life. So our cabin in the woods is all right for the fruit side, for I have mentioned before the raspberries and blackberries that seemed to bear continuously in the Grand Traverse region.

Of course, we have enough peanut butter on our table, and salted peanuts. But of all nuts that God ever gave to his children, the best is, in my opinion, the chestnut. But I should want them baked, roasted, or boiled. My favorite way is to roast them on the stove; and since I have succeeded so well in raising peaches I have turned my attention to growing nuts — especially chestnuts. The catalogs tell us that the new and improved large-sized nuts are grown on trees no larger than peach-trees, and they are so prolific that the trees have borne while still in nursery rows. One of my neighbors up in Michigan says he saw a little chestnut grove where the trees were bearing loads of huge nuts before they were as large as bearing peach-trees usually are. I have planted sample trees of all the new kinds of Spanish and Japanese chestnuts. Some of them have been growing two years, and may, perhaps, bear next year. Now, can the readers of GLEANINGS tell me what they have or what they have seen in the way of the new chestnut that bears at such an early age? If I am correct, the large-sized nuts are not as sweet as the native American chestnut; but I have found samples of the nuts in our large cities; and when they are roasted I find them very good indeed, if not quite equal to the native. As there has been quite a little stir about these large nuts for several years past, somebody ought to have some bearing trees by this time. By the way, what is our experiment station doing in the way of testing nut-bearing trees? I have seen somewhere that in some foreign countries the large chestnuts are a staple article of food, and not a very expensive food either.

Perhaps I should add that the greatest obstacle in the way of growing the native American chestnut is that it takes so many years for them to become of bearing size.

A neighbor of mine in Michigan has a row of the common kind by the side of his peach orchard. There are fifteen or twenty trees there now, each about a foot in diameter — monstrous forest trees. They were planted about twenty years ago. But, although they grow rapidly in that fertile soil, they have never borne very many nuts. I presume they can be grafted with the improved early varieties so as to give an abundance of nuts in a very few years.

At present the grafted trees are rather expensive. While small trees can be bought for 30 or 40 cents, those of a bearing age cost from 75 cents to \$1.00. What has been done up to the present day in the way of growing chestnuts in America?

Since the above was dictated I have run across the following from a periodical called *Vital Culture*:

Nuts of all kinds are exceedingly nutritious, and can be digested with ease by almost any one, provided they are eaten either alone or in conjunction with other natural foods. Who can see a squirrel frisk about without wishing that his body were as flexible and as agile? The squirrel, as you remember, lives almost entirely on nuts.

You see when my chestnuts get to bearing up there at the cabin in the woods, I shall have plenty of frisky neighbors in the shape of real squirrels; but I can hardly expect, at my age, to get so “flexible” and “agile” that I can climb trees and spring from one to another as they do almost daily all around our home.

Perhaps I might add that we are now purchasing beautiful new chestnuts in our market for 20 cents a quart; and Mrs. Root puts a dozen or two on the stove when she is cooking, and we have a chestnut dessert after each meal. I also notice by the *Philadelphia Farm Journal*, for November, that the editor has visited J. T. Lovett's chestnut-farm near Bristol, Pa., where he has 30 acres of the improved chestnuts in bearing. These trees are ten or twelve years old from the graft, and are bearing from a bushel to a bushel and a half to a tree.

GOD'S MEDICINES.

My attention has been recently and forcibly called to another of God's remedies, and I think it will go along very well with pure air, outdoor exercise, good water to drink, etc. It is the use of lemons, the acid that God prepared especially for his children, and it is entirely nature's work. There is a peculiar kind of indigestion that makes one crave something sour. This is especially the case in the spring of the year. Some people eat pickles and similar manufactured acids; but I believe that most of us have found out they are, as a rule, very unwholesome and indigestible. The value of lemons seems to be so well recognized that you can buy them all over the world, in almost any corner grocery, at almost any season of the year. The prices, too, are within the reach of everybody. With a little care, lemons will keep not only for weeks but for months, and they are always wholesome. When I

have a peculiarly bad taste in my mouth I instinctively feel a craving for lemons. The papers have been telling us recently that a little lemon juice in the water we drink will destroy the harmful bacteria. A competent medical authority replies that, while this is not altogether true, it is partly true. I know that, when I can get hold of a lemon and have an opportunity to sit down with a cup of water in one hand and the lemon in the other, I can cure the bad taste in my mouth and the unpleasant feelings in the digestive organs, and feel refreshed and well in just a few minutes. The lemon juice may be squeezed into the water before drinking it, or you can suck the juice out from one end of the lemon and then take a swallow of water. I like the latter plan better. The pure lemon juice cleanses my mouth and my teeth better than the diluted juice; and when it gets to be unpleasantly sour, a little water taken into the mouth seems to be peculiarly refreshing and pleasant. Sometimes I prefer hot water, and under some circumstances it seems to be a better remedy than cold water — especially water that is *very* cold.

I believe lots of suffering might be relieved, and many doctors' bills saved, by using lemons in this way. It is a thousand times better than stimulating drinks or stimulants of any kind. It is God's own medicine put up in neat little bottles which are his own handiwork; and I believe he intended it for us just as he intended the refreshing breezes, the genial sunshine, and the pure spring water that gushes forth from a thousand hills.



Righteousness exalteth a nation, but sin is a reproach to any people.—Prov. 14 : 34.

“A BARREL OF WHISKY OR A BUSHEL OF BIBLES.”

Nearly a year ago I said in one of my Home papers that one of the speakers at the Anti-saloon League meeting in Columbus threw a banner across the stage, with the heading, “A barrel of whisky or a bushel of Bibles.” At one of the liquor-league conventions a speaker said we fanatics might bring our Bibles, as big a stack as we liked, and that he would beat us all out of sight with a *barrel of whisky*. Now, it has looked at times during the past year as if the barrel of whisky were going to prevail against the Anti-saloon League, the churches *en masse*, and over every power that good men and women could bring to bear. Boss Cox, of Cincinnati, the boss and leader of Ohio politics, not only visits beer-gardens almost every evening, but he can drink thirty or forty glasses of beer in one evening. The

statement has been published broadcast, and none of Cox's friends have contradicted it. I said, toward a year ago, it was not *possible* such a man could be permitted to say who should be elected to the prominent offices of our State, including that of Governor; and yet good people said Boss Cox had every thing so completely in his power that we could not help ourselves. He declared Herrick should be our Governor for another term, and good Christian people said it was better to let Boss Cox rule than to “disrupt” the Republican party.

The readers of GLEANINGS know how I have plead in these pages for a revolt, no matter what party it “disrupted.” Only one person in this world knows how much I have *prayed* over the matter. God has not only heard, but *answered* the prayers of myself and of the Christian people of the land. As I write, many are perplexed and astonished, and some are indignant. But our fair State of Ohio has broken loose from her bondage. The people have, by their votes, declared we want a man for Governor who will *enforce* the laws, and not one who will suppress them in order to accommodate the liquor-men.

Judge Webber, in a political speech here just before election, produced a printed circular emanating from Joe Miller, of Cincinnati. This circular was a frantic exhortation to saloon-keepers and every one connected with the liquor-trade to work untiringly day and night for Herrick; for if Pattison were elected every saloon in this State would be shut up tight on Sunday. “Joe” closed with a caution to his friends about letting that circular get into the hands of the fanatics. Judge Webber said, with a comic smile, “We will take *great pains* not to let anybody see it.” I wondered at the time if our people realized that the saloon element had by this circular candidly owned up that they did not *like law*, and that they proposed to break our laws, and that they must have have a Governor who would make it as *easy* for all law-breakers as he possibly could. We read, “The wrath of man shall praise thee.” How wonderfully this little text has been verified! These law-breakers, in their stupid and dense ignorance, could not see they were giving Mr. Pattison one of the highest compliments that could *possibly* be paid him. They were unconsciously, it seems, putting into our hands a tremendous weapon—a weapon with which to hew themselves to pieces. May God be praised that the weapon was seized by an indignant public, and *has been* used to advantage.

I hope I may be excused if I quote a text to the *Republican party*, especially as I have been a Republican all my life, and expect to be a Republican still, but an independent voter. The text as applied to the Republican party is this:

Now, no chastening for the present seemeth to be joyous, but grievous; nevertheless, afterward it yieldeth the peaceable fruits of righteousness to them which are exercised thereby.—HEB. 12 : 11.



ADULTERATION OF CLOVER AND OTHER SEEDS.

One thing that has pleased me in gardening and growing field crops in Northern Michigan is the freedom from noxious weeds there compared with our gardens and farms here in Ohio. As an illustration: We have miles and miles of fields covered with ragweed as thickly as it can stand, all over Ohio. It comes in after the grains are harvested. Many people think the pollen from these acres and acres of ragweed is the cause of hay fever. In Northern Michigan no ragweed could be found five years ago; but now it is appearing in different places. There are comparatively no dandelions there; and quite a number of our common weeds that are pests were unknown, or at least I did not find any of them until *I myself* introduced them with plants shipped from Ohio. I did not think much about it at first; but these weeds caught on the new soil, and some of them went to seed, and now I have thrifty patches of several weeds I do not find anywhere except where I started them. Our neighbor Hilbert bought some clover seed that seeded his orchard pretty thoroughly with *dock*; and others around there showed me ragweed that has come up recently, which, as they supposed, must have been in clover seed they purchased. Quite a lot of other noxious weeds are to be found just appearing here and there in places, where it must have come through clover seed purchased.

I have just received a leaflet from the Department of Agriculture in regard to the adulteration of red-clover seed. A lot of samples were purchased in the open market, and they give a list of names of different seedsmen, perhaps twenty in all, who put up the seeds and put them on the market. One of the samples contained as much as 45 per cent of spurious seeds. In this case the 45 per cent was burr clover and yellow trefoil. Other samples contained all the way from one per cent up. The sample from Gregory, of Marblehead, contained only 3 per cent of other seeds. One other sample, from W. Grossman, of Petersburg, Va., contained only 1½ per cent. Quite a number of the samples contained from 10 to 20 and even 30 per cent.

Now, this is a terrible state of affairs. It ought not to cost *very much* to have red-clover seed so thoroughly cleaned that it will not contain more than three or four per cent of noxious weeds; and I do not know but it would pay to insist on having clover seed with less than one per cent of adulterants or noxious weeds. If one owns a farm which he expects to hand down to his children, it certainly would pay big to take every precaution to keep out noxious weeds.

GETTING RID OF THE GRASS.

How would you prepare blue-grass sod for a garden?
Soldier, Iowa, Oct. 9. R. A. WOOD.

Friend W., I do not know that I have had any experience with blue-grass sod; but I have had considerable experience with June-grass sod; and I have wondered why so many people seem to be afraid of it or object to it. In my potato-field in Northern Michigan a part of it was originally covered with a very heavy growth of June grass—so heavy, in fact, that it was hard work for a big team to get it turned over; but I was on hand, and by taking special pains we got all the grass out of sight. It was well harrowed, and potatoes planted. Of course, the grass started again, and began to grow up from the roots. But we kept it cultivated and chopped off with hoes, every bit of green as fast as it appeared, and it finally gave up trying to grow, and we had the best potatoes there of any place in the field. Since then I have seen potatoes grown by my neighbors where the grass was permitted to grow, and it almost seemed to choke out and obscure the tops of the potatoes. I believe they all succeeded in getting a good crop, however; but it is terribly hard work to dig the tubers, no matter how you manage it. I helped a neighbor recently a little while in such a potato-patch. I greatly enjoyed turning out the magnificent Early Rose potatoes; but before I had dug many bushels I became so tired I had to lie down in the grass and take a nap. I believe that, before the next season, they generally succeed in pulverizing the sods, so an excellent crop is assured of almost any kind. One of my nearest neighbors plowed under his June-grass sod early in the fall; then he harrowed the ground every few days, killing the grass and every weed that started. Last June I congratulated him on having the finest and cleanest-looking field of potatoes I had ever seen him grow. I suggested that he must have cultivated them a great many times, and had done a good job of hoeing one or more times. I was surprised to learn he had not cultivated them as *much* as usual, and had done no hoeing at all. The explanation was, the plowing and repeated working of the ground with the harrow the fall before. He not only killed the grass, but he made all the weeds germinate possible, then harrowed them to pieces, gave another set of weeds a start, harrowed them, and so on. This fall working of the ground is a splendid way to prepare a field for strawberries to be set the next spring, as you will notice by the strawberry-book.

LOCATING IN FLORIDA FOR QUEEN-REARING, ETC.

In our last issue I mentioned Miami. Since then I have good reasons to think that somewhere near Fort Myers, on the west coast, would be better for our business. But I shall probably visit several places before deciding definitely on a locality. Meanwhile I shall be glad to get suggestions. I

am especially anxious to know if anybody has succeeded in raising queens all through the winter months. It is a difficult matter to preserve drones. In my travels through Florida I have seen some queen-rearing in the winter time, but not away down below the frost-line. I think one or two have advertised queens during the winter; but, so far as I recall, none of these advertisers made it much of a success. I suppose there will be no very great demand before March and April unless it is to supply orders from Cuba and the southern parts of the United States. What I wish to get at especially is, is there anybody in the United States who undertakes to ship queens promptly, especially *young* queens, every day or any day in the year? I am sure there ought to be some such person or establishment; and as I do not expect to monopolize the business by any means, I should like to see somebody else, who is favorably located, turn in and help. I shall probably be here in Medina until the fore part or middle of December.

"THE YOUNG LADY AT BINGHAM."

I shall have to explain to our readers that the little church up in Northern Michigan I have talked so much about is called the Bingham church, after the little town close by. A few days ago I found the following in the *Rural New-Yorker*:

There was a young lady at Bingham
Who knew many songs and could sing 'em;
But she couldn't mend hose,
And she wouldn't wash clothes,
Or help her old mother to wring 'em.

Of course, I clipped it out and sent it to the "young ladies in Bingham," with my compliments. I took pains to assure them, however, that I felt very certain that it did not fit any of their number, especially those who go to church and Sunday-school, for I know full well *they* not only help their mothers to wash clothes and do housework, but the greater part of them can dig potatoes, pick beans, strawberries, or do almost any thing else. And, by the way, it makes me homesick almost every time I think of that Bingham church and Sunday-school. I am not only homesick for a sight of the "young ladies of Bingham," but I want to see the old ladies and middle-aged ones too; and I want to see the boys and the middle-aged men, and the old men also. I am almost counting the days when I can be with that little flock once more, and I am praying God that the revival spirit that filled their hearts last fall may be as bright and as full of enthusiasm when April comes as it was when I left the dear friends in October.

BOSSISM AND LIQUOR DOMINATION.

In our last issue I gave a plea from Congressman A. R. Webber, and I now wish to quote something more from him, taken from the *Medina Gazette*, as follows:

TO THE REPUBLICANS OF OHIO.

The voters in our great party have determined by their

ballots the issues of this campaign — shall bossism, and especially of the George B. Cox type, together with his allies, the liquor interests of the State, longer dominate in determining our party nominations and policies? The verdict of the people is against such domination. Geo. B. Cox now says in public print he has retired from politics. Don't you believe it. He has said this before. He will be on hand next time at the State convention with his delegates to dictate, if possible, through his allies, the liquor interests, who shall be nominated and what shall go in our platform. The only way for us to defeat this is to listen to the demands of the Republican voters and see to it in every ward and township in Ohio that only delegates shall go to *county* conventions (where our State-convention delegates are chosen), as will support only such delegates to the *State* convention as will pledge themselves to demand that a plank shall go into the Republican State platform denouncing such bossism and liquor domination in our party affairs. This is the only way to break up and demolish effectively the present Boss Cox machine. And our county conventions thus selecting State delegates should be called on to pass resolutions of instruction to the State delegates in keeping with the above. I ask Republicans who read this to cut it out for preservation, and write me as soon as possible whether you are in favor of this kind of move. I certainly favor it, and believe it is the only safe way to keep out of the hands of the enemies we have been fighting in this campaign. Write me at Elyria, O. Truly yours for clean politics,

A. R. WEBBER.

As this manner of denouncing bossism and liquor domination is one in which Republicans and Democrats, and the Prohibition and all other political parties can join in, I would ask our readers to present the above to the editors of their respective county papers for publication—that is, if they have not already given place to something that covers the same ground. It is not only getting to be a "wet-and-dry" issue, but it is really a *life-and-death* issue—that is, life or death for our American republic.

NAVIGATING THE AIR.

I wish to extend my hearty thanks to the readers of GLEANINGS who have, during the past year, taken pains to send me newspaper clippings in regard to dirigible balloons, etc.; and I should be glad to have any of our readers mail me whatever they find in the papers in regard to any experiments in navigating the air — more especially those that will work without the aid of a balloon. As I take the *Scientific American* and the magazines specially devoted to mechanics and science, I refer particularly to newspaper notices from different localities where experiments in aeration are being made. I do not care so much for sensational stories of what somebody is *going to* do; but I want reports of what has actually been done up to date. At present I am not at liberty to give a report of the wonderful progress made by the Wright Brothers in the past few months.

ORRIS-ROOT CULTURE.

The Department of Agriculture at Washington has issued a warning against being taken in by advertisements in the papers, from those who have orris roots to sell. They represent the root as being worth 40 cts. per lb., whereas the average price is only from 3 to 10 cts. These advertising fellows also say the United States makes an

annual demand of \$2,000,000 worth, while the real truth is, there is a demand for only about \$20,000 worth. It makes one think of the ginseng business, and these other chaps who are so anxious to do good by getting everybody to raising mushrooms in old cellars. While there is a limited demand for orris root, and I believe it could be grown profitably by those favorably situated, it is certainly important that whoever goes into it should not be misled by such astounding extravagances.

"LOOK OUT FOR HIGHWAYMEN."

As I have been a reader of your Home papers for a number of years, and know your attitude on certain things, I feel like asking you to reach as many homes as you can, warning parents to look out for the "highwaymen" who are passing out to schoolboys such pamphlets as I inclose herewith. I have a boy thirteen years of age. He, with several others from here, attend school at Niagara Falls. While coming home in the car a day or two ago a man, well dressed, opened his grip and distributed these pamphlets among these young boys.

M. GOODRICH.

La Salle, N. Y., Oct. 11.

The book mentioned above is an advertisement for a certain kind of cigarettes. It contains pictures of prominent men, politicians, theatrical players, etc.; and each of these prominent men tells how much he enjoys this particular brand of cigarette. The book is published with the end in view of exciting the curiosity of the boys, and inducing them to think there is something wonderfully nice about the cigarette. Once more: Yesterday's daily had an account of a school somewhere in the State of New York that had to be dismissed in the middle of the day. Thirty or forty boys were so sick from the effects of tobacco they had to be sent home and break up school. How did those boys happen to be in that predicament all at the same time? A well dressed stranger on the streets of the town distributed among these schoolboys samples of a particular brand of tobacco. They went away somewhere by themselves with the samples and proceeded to test the tobacco to see what it was like, with the above result. A highwayman who would have held up a lot of boys and robbed them of what money they had, or even their good clothing, would have been hunted out by the police, no matter what the cost; but the highwayman who deliberately plans to steal both body and soul is allowed to go unpunished.

SOME OF LUTHER BURBANK'S TRIALS.

We find the following clipping from some newspaper; but as we do not know the name we can not give credit:

Once I had a strawberry-plant that had come as near perfection as I hoped for. Out of several thousand plants it was the perfect one I had been breeding for. I put a fence of little stakes around it, hedging it in from the others, and with much care explained to an Englishman I had working for me that he was to leave that one untouched and pull up the others around it. When I came to look at what he had done I found he had pulled up my one perfect plant—it was lying withering in the sun—and the rest were all growing.

The above illustrates so vividly some of my own experiences with hired help that I have given place to it. I have sometimes thought these people were *willfully* stupid, and destroyed purposely that which we value the most, but perhaps this is not so. But it is sad to contemplate the number of people in our cities who can not get a job when there are hundreds and thousands of employers who are ransacking the country for competent help. Is it because our people are not properly educated in youth, or what is the trouble? Some time ago I had one man who was almost *sure* to do things I particularly cautioned him not to do.

FINDING WATER WITH A HAZEL ROD OR A PEACH-TREE SPROUT.

As there are still people who insist that there is sense and science in finding water by the above means, I give place to the following, which came from one of the agricultural journals; but as I can not find which one, I can not give credit:

Our correspondent is misinformed, and can easily convince himself that the hazel-twigs business is absolutely nothing but delusion by simply leading a water-witch, securely blindfolded, several times over the same tract by circuitous routes, and noting, without the knowledge of the magician, every spot where the wand turns. If there were any thing in the method the rod would, of course, always indicate the same spots. Nothing of that kind ever occurs with the witch kept securely in the dark and turned round often enough to lose his bearing completely. Either the rod will not work at all or its indications will be uncertain and self-contradictory.

Somebody says:

Man has made the flying-machine, wireless telegraph, and numerous other inventions, but has yet to imitate our little mathematician the bee in making comb honey.

Special Notices by A. I. Root.

MCCLURE'S MAGAZINE.

At our last church conference here, in an address by Washington Gladden he spoke of the great reforms that had been recently started in the financial and political world, and he remarked that one would naturally expect our churches and religious periodicals would be among the first if not the very first to start such a great movement for honesty and truth. But we must, he said, acknowledge to our shame that it is not so. The great war was first opened by our magazines—our recent ten-cent magazines. Mr. Gladden did not say so, but I say that McClure's was one of the *first* to inaugurate a reform. Single numbers of that magazine often contain articles worth a whole year's subscription. It called attention a while ago in a most valuable article to the cause and cure of the great white plague, consumption. Other articles on sanitation, medicine, anti-toxin, etc., have been equally valuable. Last, but not least, McClure's Magazine will not accept whisky or beer advertisements, and not even a patent-medicine advertisement of any sort. Surely we can afford to give such a home magazine encouragement. You will notice by the advertisement on page 1205 of this issue that McClure's Magazine can be had three months free by just asking for it. Now, I should not be honest if I did not, while mentioning the *good* things in this periodical, also add that it is devoutly to be wished such a home magazine would discontinue the use of so many profane words in stories, and also recognize that drinking whisky and beer, smoking cigarettes, etc., are not just the things we might expect from the hero of a tale—that is, an *up-to-date* story.

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Naturopath and Herald of Health.....	1 00
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